BC University Student Outcomes

THE University Presidents' Council OF BRITISH COLUMBIA

2000 SURVEY HIGHLIGHTS

- What are baccalaureate graduates' employment outcomes?
- How much are graduates earning?
- Are graduates satisfied with their university education?
- Would graduates take the same program again?
- Do graduates pursue further studies?
- Do graduates remain in British Columbia after graduation?

What are baccalaureate graduates' employment outcomes?

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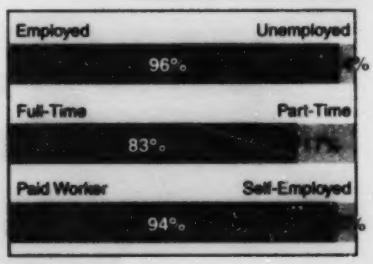
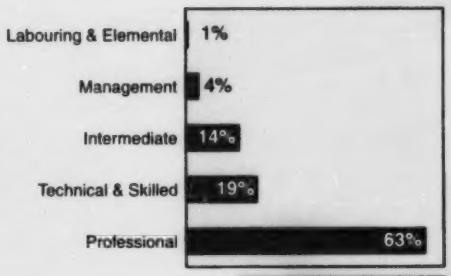


employment characteristics



skill level of occupations

A majority of all graduates surveyed were working in professional occupations that require a university degree, according to the Canadian National Occupational Classification system. Less than one-fifth were working in intermediate occupations, requiring two to three years of college-level training. A small percentage were in management occupations, while very few were employed in occupations that require only high school plus some on-the-job training.

When asked how related their jobs were to their degree program, 73 percent of respondents said their main job was "somewhat" or "very related" to the program they completed at university. Those who completed co-operative education were more likely to have employment related to their studies (85%) than those who did not (72%).

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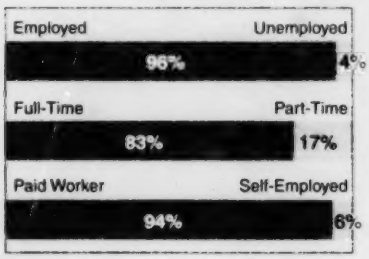

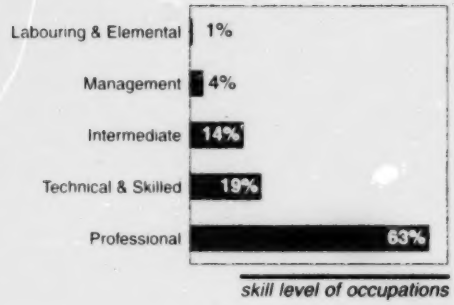

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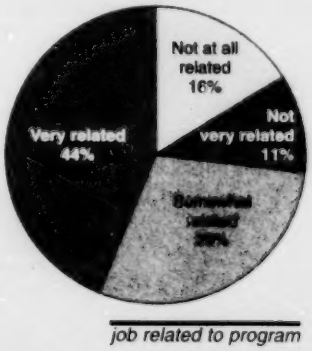
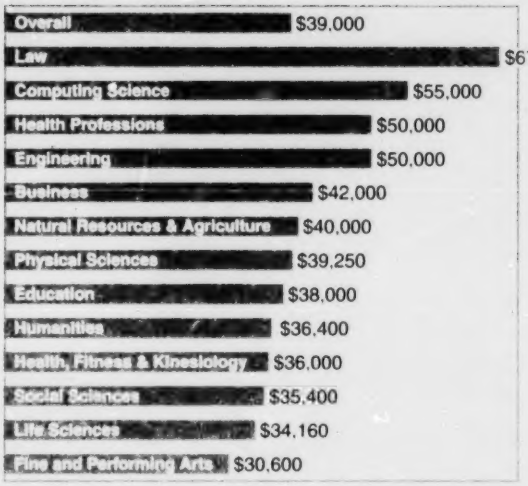


How much are graduates earning?

The median annual salary for graduates employed full-time was $39,000. Median full-time earnings were higher for males ($42,500) than for females ($38,000) and increased with the age of the respondent, from $38,000 for those 20 to 29 years of age to $45,120 for those 40 years of age and older.

Across program areas there was wide variation in overall median full-time income levels. Law was the highest at $67,500, while Fine and Performing Arts was the lowest at $30,600.



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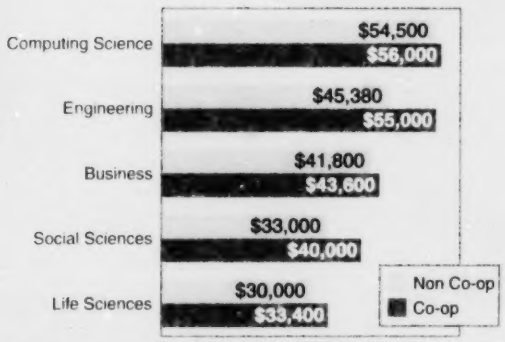

co-op and non co-op annual median salaries for programs with more than 30 co-op completers

Those graduates who completed co-operative education had higher median full-time incomes than those who did not. In particular, co-op completers from Engineering and Social Sciences programs reported significantly higher incomes than their non co-op counterparts.

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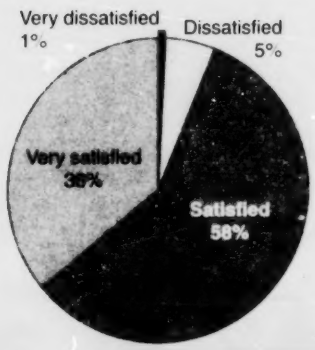

education satisfaction

Almost all graduates (94%) said that they were either "very satisfied" or "satisfied" with their university education, and approximately 77 percent of graduates reported that they had "mostly" or "completely" achieved their main goal for enrolling in university.

Fifty-five percent of respondents reported that there were courses they would have liked to have taken but did not, because they were not available, not offered, always full, or had restrictive enrolment policies.

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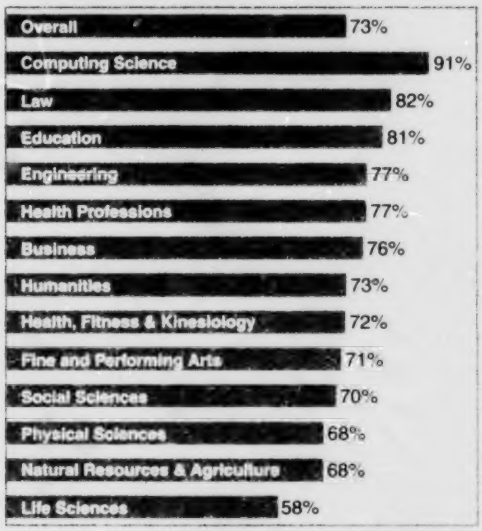


would select the same program again

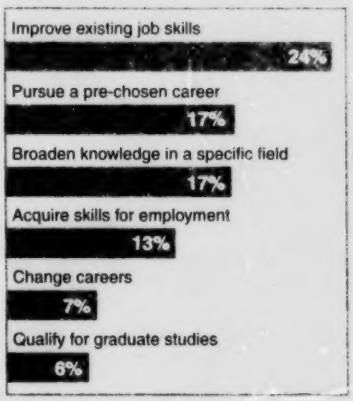
Almost three-quarters of respondents said they would take the same university program again. Among those who reported they would not select the same program again, 29 percent said that their interests had changed, 29 percent stated that the program they chose was not practical, and 20 percent reported that their program provided them with few or no career opportunities.

Do graduates pursue further studies?

Most graduates (74%) took some form of further education within two years of graduating from university. At the time of the survey, 34 percent were currently enrolled in further studies—19 percent on a full-time basis.

While a number of respondents said they enrolled in further education to broaden their knowledge or prepare for a graduate program, most cited employment-related reasons for pursuing further studies.

top reasons for further education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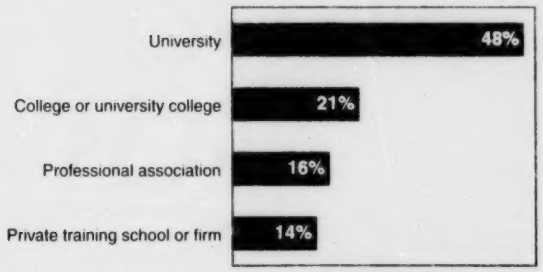

location of further training

Of those who pursued further studies, almost one-half enrolled in a university. Many more attended university college or college or studied through a professional association; however, relatively few (3%) participated in employer-sponsored training.

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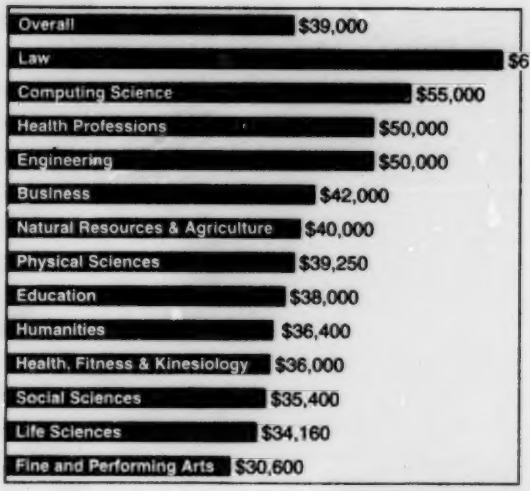

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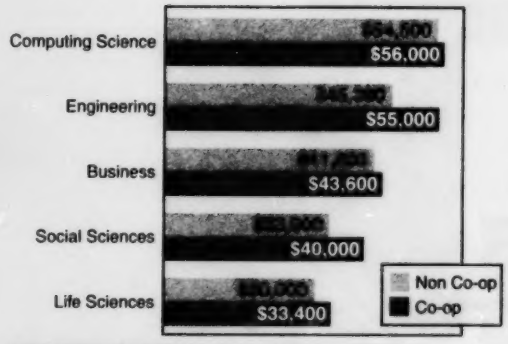

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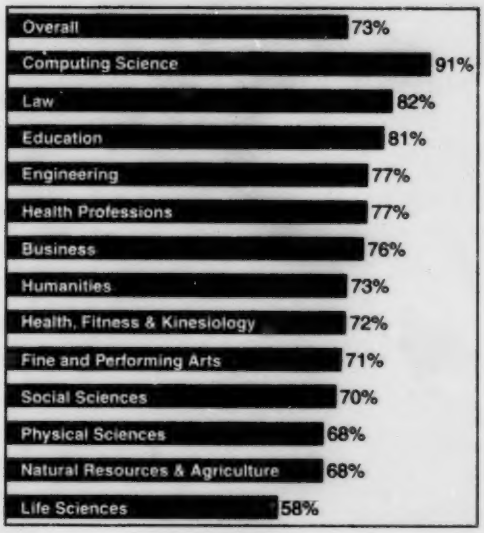

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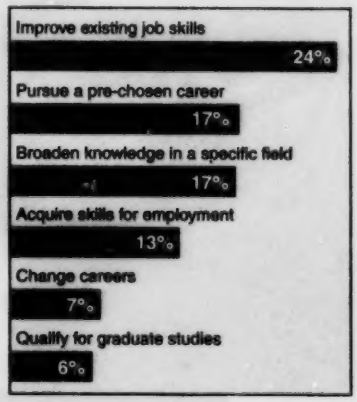
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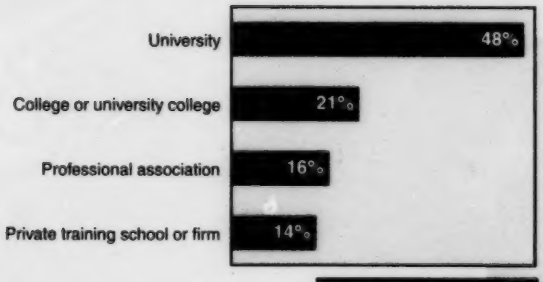

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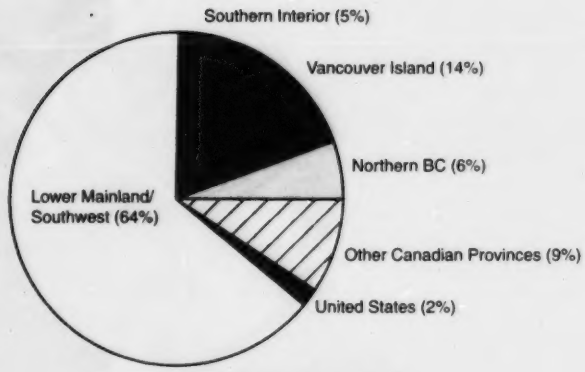
At the time of the survey, most respondents (89%) were residing in British Columbia, with almost two-thirds living in the Lower Mainland.

Law graduates were the most likely to be living in another Canadian province (23%). Graduates from Natural Resources and Agriculture programs were more likely than other graduates to be living in Northern British Columbia (23%), while graduates from Computing Science programs were most likely to leave the country—10 percent moved to the United States.



current residence of graduates

About the 2000 Survey Highlights

The *2000 Survey Highlights* provide a summary of key findings from the report on the 2000 BC University Baccalaureate Graduate Survey. This survey was conducted in the fall of 2000 with 1998 baccalaureate graduates two years after graduation.

Out of 9,119 graduates selected for surveying, 6,357 participated in the survey, resulting in a response rate of 70 percent. The survey was conducted under the auspices of the BC University Student Outcomes Project—a long-term research project dedicated to gathering student outcomes information for BC's universities and the Province of British Columbia. The universities, The University Presidents' Council (TUPC), and the Ministry of Advanced Education collaborate on the project, which is funded by the Ministry and managed under TUPC contract by the Centre for Education Information.

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Limited quantities of print copies are available by e-mailing: publications@ceiss.org.

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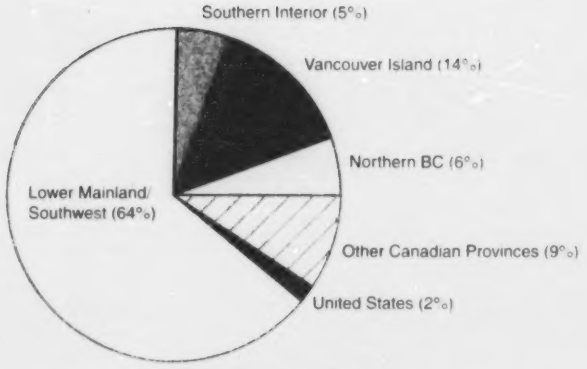

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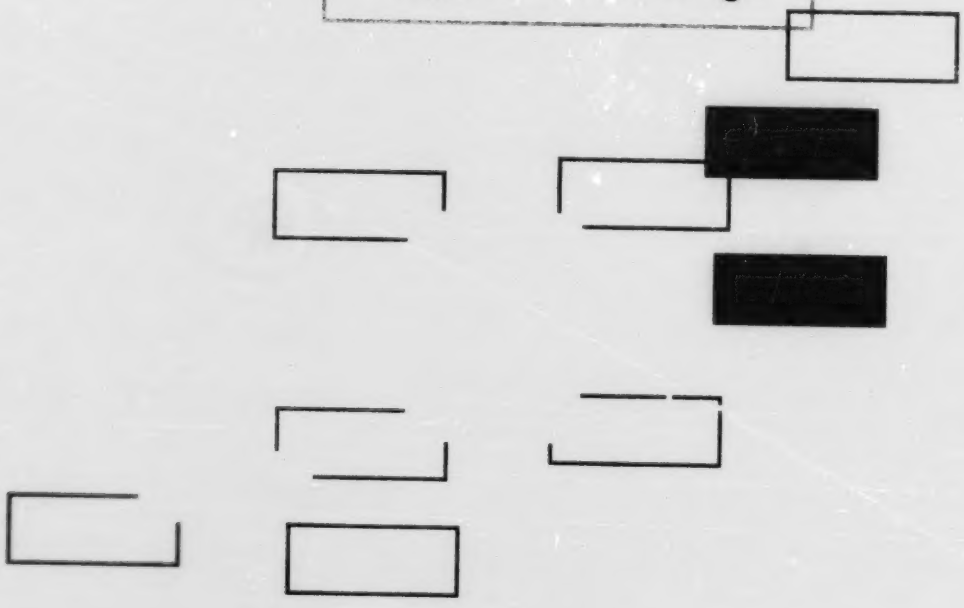
2000 BC University Baccalaureate Graduate Survey

Report of Findings



The Class of 1998
Two Years After Graduation

THE University Presidents' Council OF BRITISH COLUMBIA

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In addition to this Report of Findings from the 2000 University Baccalaureate Graduate Survey (UBGS), the following reports are available for viewing through The University Presidents' Council's website:

Summary of Survey Results by Program Classification—***New in 2000***

www.tupc.bc.ca/student_outcomes/publications/summary_reports

Using a two-page template format, this report presents survey results for each university at a high level of program aggregation. A total of thirteen program groupings were developed for this analysis. The report was designed for those readers interested in reviewing key survey findings.

Detailed Reports by Discipline—***New in 2000***

www.tupc.bc.ca/student_outcomes/publications/detailed_reports

A seven-page template was developed to display survey results by discipline for each university as well as for British Columbia universities combined. These reports were designed for readers interested in specific university program information. The reports have been organized so that users can easily locate and select reports by institution and by discipline.

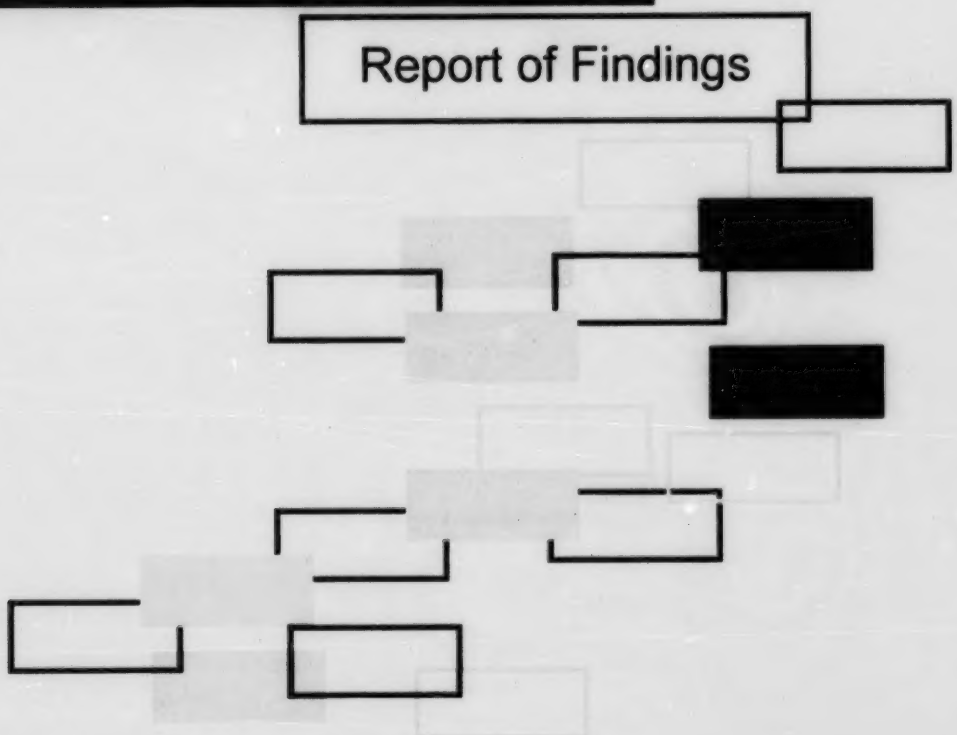
Analytical Reports and Highlights Brochures

www.tupc.bc.ca/student_outcomes/publications/graduate_outcomes

These reports present broad, analytical reviews of survey results, while the associated highlights brochures (beginning in the 1998 survey year) summarize the key findings.

2000 BC University Baccalaureate Graduate Survey

Report of Findings



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University Student Outcomes Working Committee

The University Presidents' Council of British Columbia
Dean Goard, Secretary to Council (USO Project Chair)

Ministry of Advanced Education
Jacqui Stewart, Manager, Universities and Institutes Branch
Rahel Umpherson, Research Officer, Post Secondary Finance and Information Management Branch

University of British Columbia
Walter Sudmant, Director, Planning and Institutional Research
Colleen Hawkey, Analyst, Planning and Institutional Research
Carol Naylor, Career Consultant, UBC Career Services

Simon Fraser University
Walter Wattamaniuk, Director, Office of Analytical Studies
Joanne Heslop, Analyst, Office of Analytical Studies

University of Victoria
Tony Eder, Director, Institutional Planning and Analysis
Robert Lee, Analyst/Statistician, Institutional Planning and Analysis

Royal Roads University
Ann Nightingale, Director, Learner Services and Registrar

University of Northern British Columbia
Carol Yates, Former Director, Institutional Analysis and Planning

The Centre for Education Information Standards and Services (CEISS)

Jacquie McDonald, Project Manager, University Student Outcomes Project
Jim Martell, Research Analyst, Education Outcomes Unit
Marti Lea Thib, Research Analyst, Education Outcomes Unit
Lori McElroy, Senior Research Analyst, ELMIS
Julie Shaver, Research Analyst, ELMIS

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Andreas Rose, Malatest and Associates Ltd.

Executive Summary

This report presents a summary of the main findings from the University Baccalaureate Graduate Survey conducted in the fall of 2000 with 1998 baccalaureate graduates.

Reasons for Enrolling and Education Satisfaction

Overall, 41 percent of graduates said obtaining a degree was their primary goal for enrolling in university, and of those graduates, 83 percent wanted the degree to open the door to career or job opportunities. Approximately 77 percent of all respondents reported that they "mostly" or "completely" achieved their primary enrolment goal.

About 94 percent of graduates indicated they were "satisfied" or "very satisfied" with their program of study, and approximately 73 percent said they would select the same program again. Of the twenty-five percent of respondents who stated they would not select the same program, 29 percent admitted their interests had changed. Others reported that the program they chose to take was not practical (29%), and one-fifth stated that their program left them with few or no career opportunities.

Education Evaluation and Skill Development

Overall, 88 percent of respondents indicated that the required courses for their program were "good" or "very good" at providing them with an inclusive understanding of their field. Approximately 95 percent of respondents indicated that the quality of instruction they received was either "good" or "very good."

Thirty-seven percent of graduates indicated that degree completion took longer than expected. Those respondents cited many reasons for the delay, including personal or family reasons (16%), financial reasons (15%), problems with course availability (14%), changing their major (14%), and participating in a co-op (11%).

Almost three-quarters (74%) of respondents reported that university helped develop their abilities to write clearly and concisely and to compose logical arguments. The skill least likely to be cultivated by the university experience was the use of mathematical models and methods to analyze data. Just 36 percent of respondents said they developed this skill at university; however, few program areas require this skill.

Participation in Further Education

Most graduates (74%) went on to seek some type of further education after university. Graduates who most often reported taking further education or training were from Health, Fitness, and Kinesiology (83%), Life Sciences (83%), and Physical Sciences (82%). Computing Science (53%) and Education (59%) graduates were the least likely to seek further education.

Of those who enrolled in further education, one-quarter were seeking to improve their existing job skills, 17 percent indicated they were pursuing a specific career, and a further 13 percent reported they were pursuing additional education to acquire skills that would lead to employment. Of the remainder, almost one-fifth (17%) reported they wanted to

broaden their knowledge in a particular field of study.

Labour Market Participation

The majority of graduates (88%) were in the labour force. Ninety-six percent of graduates in the labour force were employed or had a paid job lined up at the time of the survey. Most (73%) indicated their job was "somewhat" or "very related" to the program they had completed, and those who participated in co-op education were more likely than non co-op graduates to be in jobs that were "somewhat" or "very related" to their education.

Sixty-three percent of employed graduates were working in professional occupations, those that require a university education, according to the Canadian National Occupational Classification system. About one-fifth were in technical and skilled occupations, while a tiny fraction were working in labouring and elemental occupations. Overall, the median full-time annual salary was $39,000.

Education Financing and Debt Load

Graduates were asked to identify the top two sources of funding that helped them pay for the education program they completed in 1998. Just over one half of graduates (55%) named employment earnings as one of their top two sources of funding. Support from family and friends and student loans were each identified by about 40 percent of respondents.

Overall, 47 percent of respondents reported incurring some debt to pay for their educational program. The median total debt was $16,000. There was substantial variation in the amount owed by graduates: while about a third owed $10,000 or less, eleven percent owed over $35,000. Respondents with debts over $35,000 were about three times as likely to be between the ages of 30 and 49 than those with debts less than $10,000.

About 80 percent of total debt was student loan debt; 42 percent of all graduates reported having a government sponsored student loan. For these respondents, the median student loan debt incurred was $16,000. A third of respondents with student loans owed $10,000 or less, while about 13 percent reported owing $30,000 or more.

Demographics

Of the 6,347 baccalaureate graduates who were surveyed and included in this analysis, 3,903 (61%) were females and 2,444 (39%) were males. Respondents ranged in age from 22 to 87 years old, with the majority (65%) between the ages of 25 and 29.

Just over one-quarter (26%) of all respondents considered themselves a visible minority—2 percent identified themselves as Aboriginal persons. Three percent of all respondents reported having a long-term physical or mental health disability.

At the time of the survey, most respondents (89%) were residing in British Columbia, with almost two-thirds (64%) living in the Lower Mainland. Nine percent of respondents were living in another province and 2 percent were in the United States.

Provincial Comparison

The outcomes of British Columbia 1998 university graduates compare favourably to outcomes of graduates in other Canadian provinces. Survey results from Ontario, Alberta, and the Maritimes showed employment rates from 97 to 83 percent and average annual incomes of $41,100 to $26, 463.

The BC University Student Outcomes Project will survey 1998 graduates again in 2003, to explore employment changes and to learn more about the longer-term impacts of university education.

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1. Introduction

About the BC University Student Outcomes Project

The BC University Student Outcomes (USO) Project is an ongoing research program that gathers student outcomes information for BC's public universities and the Province of British Columbia. Since 1995 the USO Project has been tracking the outcomes of baccalaureate graduates, both two and five years after graduation, through the University Baccalaureate Graduate Survey (UBGS). Five BC public universities are currently participating in the project:

- University of British Columbia (UBC)
- Simon Fraser University (SFU)
- University of Victoria (UVic)
- University of Northern British Columbia (UNBC)
- Royal Roads University (RRU)

The universities, The University Presidents' Council (TUPC), and the Ministry of Advanced Education collaborate on the project. The project is funded by the Ministry of Advanced Education and managed under TUPC contract by the Centre for Education Information Standards and Services.

About the University Baccalaureate Graduate Survey

The University Baccalaureate Graduate Survey (UBGS) has been designed to gather information on baccalaureate graduates' education satisfaction levels, education financing and student debt, and further education and employment outcomes.

The objectives of this project are:

- to meet the demand for university accountability at the system level in BC;
- to gather timely and relevant data for use in program evaluation and planning processes; and
- to ensure that new, continuing, and prospective students are provided with information they can use to help them make informed decisions about their personal and economic futures.

The above objectives are met through a rigorous process of data collection, data management, and outcomes reporting. Outcomes data are collected from graduates through a telephone survey that is conducted two and five years following graduation. This report presents a summary of the main findings from the UBGS conducted in the fall of 2000 with 1998 baccalaureate graduates.

The two-year UBGS survey instrument contains a core set of standardized questions. The core questionnaire sections are:

- Reasons for Enrolling and Education Satisfaction
- Education Evaluation and Skill Development
- Participation in Further Education
- Labour Market Participation
- Education Financing and Debt Load
- Demographics and Equity

In addition, special questions are added to each survey to address specific issues or topics of interest. International education was the special topic addressed in the 2000 survey. The questionnaire is provided in Appendix A.

Survey Population and Response Rates

The survey population consists of 1998 graduates of baccalaureate programs; however, for different reasons, graduates from medical and dental programs, international students, and those currently living outside of North America are not within the scope of the survey. The survey is a census in that an attempt was made to survey all eligible graduates.

Of the 10,481 students in the survey cohort submitted by the institutions, 1,362 were not eligible for the survey and therefore excluded from the net frame,[1] leaving a valid cohort of 9,119 graduates. Of these, 6,357 graduates responded to the survey, resulting in a valid response rate of 70 percent. Table 1-1 shows that the valid response rate was reasonably similar across institutions, ranging from 66 to 76 percent. A complete breakdown of the respondents by institution and program area is provided in Appendix B.

To determine how representative the respondent sample is of the valid cohort, their distributions by program and institution were compared (see Appendix B). The distribution for the respondent group is extremely close to that for the valid cohort; therefore, it is possible to conclude that the respondent group is representative of the valid cohort in terms of institution and program area.

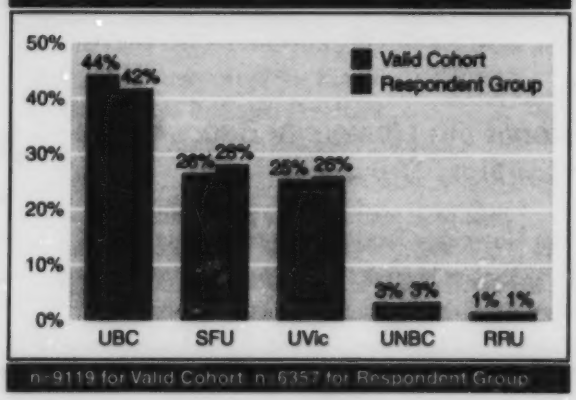
Table 1-1: 2000 BC University Baccalaureate Graduate Survey Response Rates by Institution

Institution	Survey Cohort	Excluded from Net Frame	Valid Cohort	Unable to Interview	Refusals	Respondents	Valid Response Rate
UBC	4,785	763	4,022	1,134	237	2,651	66%
SFU	2,659	256	2,403	430	196	1,777	74%
UVic	2,593	294	2,299	555	106	1,638	71%
UNBC	310	33	277	66	10	201	73%
RRU	134	16	118	25	3	90	76%
BC System Total	10,481	1,362	9,119	2,210	552	6,357	70%

Distribution of Respondents

Baccalaureate graduates from the five participating BC public universities were surveyed. UBC graduates comprised the largest proportion of respondents, representing 42 percent of the total (see Figure 1-1). Graduates from SFU and UVic each accounted for just over one quarter of all respondents, while UNBC graduates comprised 3 percent and RRU, 1 percent of the total. This is virtually the same as the distribution of graduates by institution in the valid cohort.

Figure 1-1: Respondents by Institution



n=9119 for Valid Cohort; n=6357 for Respondent Group

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Each student was classified into one of the following 15 program groups, based on their program of study (See Appendix C for a description of the program areas):

- Business
- Computing Science
- Education
- Engineering
- Fine and Performing Arts
- Health, Fitness and Kinesiology
- Health Professions
- Humanities
- Law
- Life Sciences
- Natural Resources and Agriculture
- Physical Sciences
- Social Sciences
- Architecture
- Interdisciplinary Studies

In this report, Architecture and Interdisciplinary respondents, all from UBC, were excluded from the analysis as these two program classifications contain less than 10 respondents. Therefore, the total number of respondents used in the analysis is 6,347 rather than 6,357. Table 1-2 shows the distribution of respondents across the remaining 13 program areas. Graduates from Social Sciences programs represent the largest group by far, comprising just over a quarter of all respondents. Graduates from Education and Humanities follow, at 12 percent each, and then Business and Life Sciences. The smallest group is made up of graduates from Law.

Table1-2: Cohort and Respondent Groups by Program Area

Program Area	Respondents	Valid Cohort
Business	10%	10%
Computing Science	3%	3%
Education	12%	12%
Engineering	4%	5%
Fine and Performing Arts	4%	4%
Health Professions	6%	6%
Health, Fitness and Kinesiology	3%	3%
Humanities	12%	12%
Law	2%	3%
Life Sciences	9%	9%
Natural Resources and Agriculture	3%	3%
Physical Sciences	3%	3%
Social Sciences	28%	28%

Interpretation of the Results

Before drawing conclusions from any research, there are some factors to consider. One limitation of survey research stems from non-response bias—bias in the findings that occurs when the views of non-respondents differ from those of respondents. The 2000 UGBS response rate of 70 percent, combined with the high similarity of the respondent group to the cohort in terms of institution and program, means that non-response bias should not pose a serious problem in interpreting the results of this research.

As well, the data for this report are based on a large number of respondents (over 6,000); therefore, inadequate sample size is not an issue when looking at the results at the provincial level. Analyses done comparing various program areas are based on sample sizes that range from 153 (for Law) to 1,765 (for Social Sciences)—these numbers are high enough that the results can be viewed with some certainty. However, because of RRU's small sample size, comparisons with RRU should be interpreted with caution.

Finally, numerous quality control procedures were used at every phase of the survey operation to minimize the possibility of errors influencing the results; consequently, the data can be interpreted with confidence.

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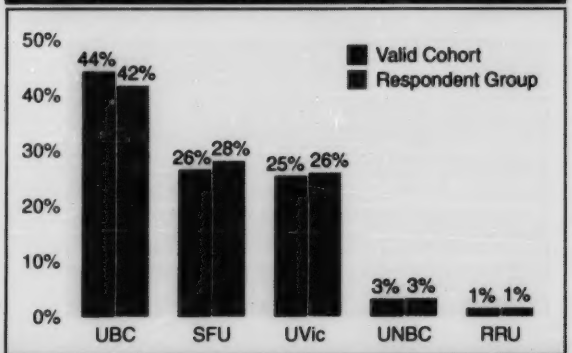

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Finally, numerous quality control procedures were used at every phase of the survey operation to minimize the possibility of errors influencing the results; consequently, the data can be interpreted with confidence.

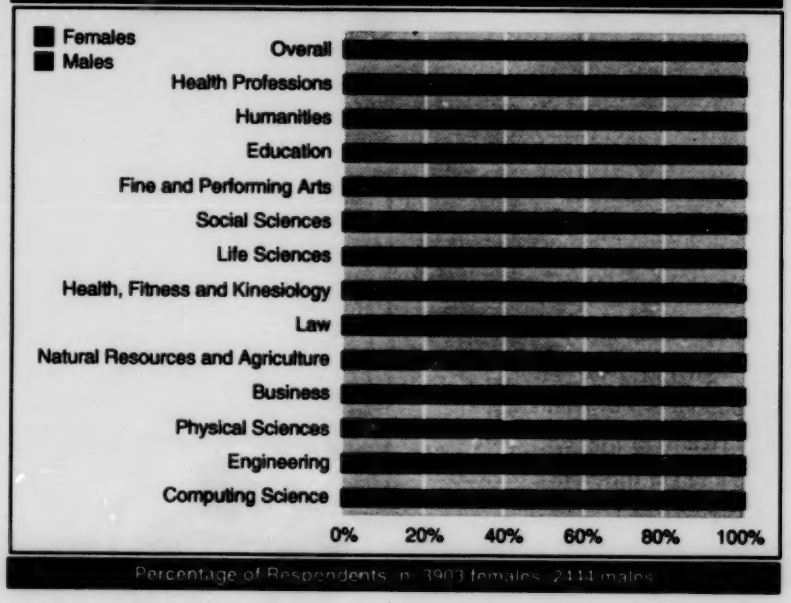
2. Profile of Respondents

The majority of graduates surveyed were female, which reflects the participation rate of women in BC universities. In 1998, 56 percent of full-time undergraduates and 59 percent of part-time undergraduates enrolled in BC universities were women. Those proportions have remained stable since 1994.[2]

The percentage of female graduates interviewed by the University Baccalaureate Graduate Survey has ranged from 58 percent in 1995 to 61 percent in the most recent survey. While female representation in some traditionally male-dominated programs, such as Computing Science and Engineering remains low, participation in Law, Business, and Natural Resources and Agriculture is approaching 50 percent.

Over one-quarter of respondents identified themselves as belonging to a visible minority group. This is higher than the proportion of visible minorities in the BC provincial population, which is about 18 percent.[3]

Figure 2-1: Distribution of Gender by Program



Gender Distribution

Of the 6,347 baccalaureate graduates who were surveyed and included in this analysis, 3,903 (61%) were females and 2,444 (39%) were males. The gender distribution varied considerably across program areas, from 85 percent female in Health Professions to 15 percent female in Computing Science (Figure 2-1).

Age of Respondents

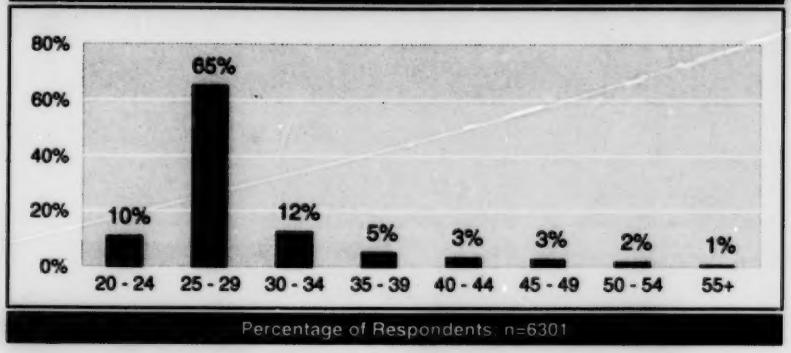
At the time of the survey, respondents ranged in age from 22 to 87 years old, with the majority (65%) between the ages of 25 and

2 Statistics from The University President's Council of British Columbia Annual Reports for the years ending 1997 and 1998 and TUDBASE Table 2: Headcount Distribution by Sex at http://www.sfu.ca/analytical-studies/TUPC/tupc02.pdf.

3 For population characteristics, see BC Stats: Profile of Total Population in BC Communities 1996, May 2001 at http://profiles.mi.gov.bc.ca/profiles/Total%20Population%20Profiles/British%20Columbia.pdf.

29 (see Figure 2-2). The average or mean age was 29 and the median was 27; the difference between the mean and median age reflects the fact that the mean is more sensitive to the extreme values in the upper range of the age distribution.

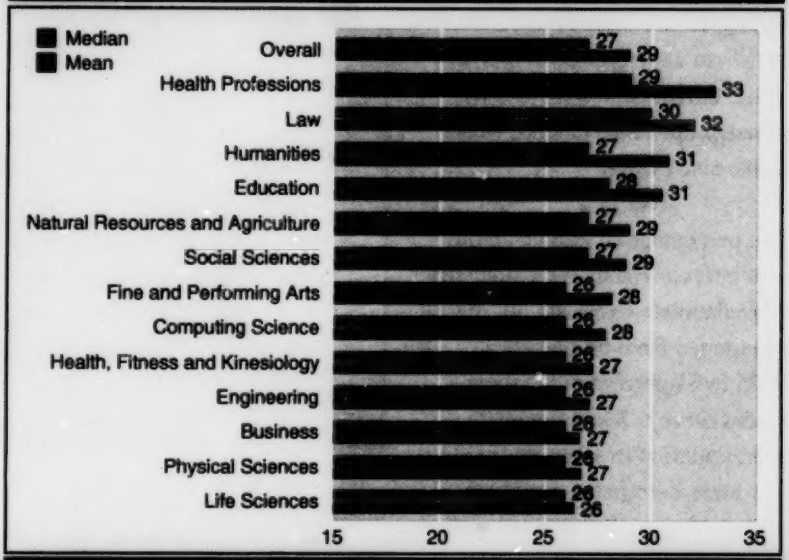
Figure 2-2: Age of Graduates



Percentage of Respondents, n=6301

Humanities, Health Professions, Law, and Education had slightly higher mean ages (ranging from 30 to 33) than did other program areas (Figure 2-3). Law and Education degrees, and some Health Profession degrees, are usually pursued after completing a first degree, which likely explains the higher average age of these respondents. For Humanities and Health Professions there was a larger difference between the mean and median than for other program areas, indicating a greater age range with more older graduates in these program areas.

Figure 2-3: Mean and Median Age by Program



Median Age of Respondents, n=6301

Equity Group Membership

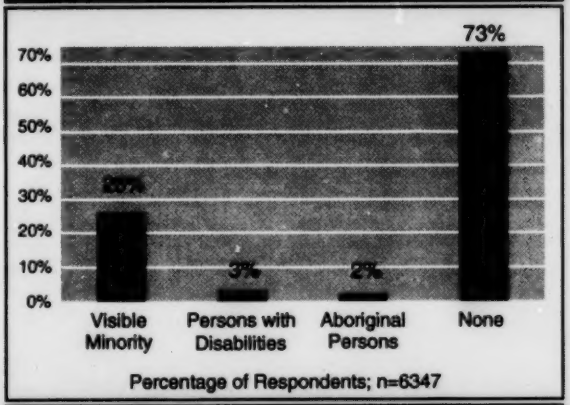
To examine the participation rate and the outcomes for equity groups, respondents were asked the following questions:

- While you were in university, and to this day, do you have a long-term physical or mental health condition that limits the kind of activity that you can perform on a daily basis?
- Are you part of a visible minority group in Canada?
- Are you an Aboriginal person?

Of the 6,347 respondents asked, 1,905 identified themselves as being in one or more of the three equity groups: Aboriginal descent, visible minority, persons with long-term disability. The breakdown by equity group membership is depicted in Figure 2-4.

Just over one-quarter (26%) of all respondents considered themselves a visible minority, with the greatest concentrations in Computing Science (45%), Business (40%), and Engineering (37%). These three programs also have the highest participation of males, and although male visible minority participation is high in these programs it is lower than the participation rate of males who were not visible minorities. For example, while visible minorities in

Figure 2-4: Equity Group Membership of Graduates



Note: a person can be in more than one equity category

Computing Science programs are 80 percent male, the rate for those who are not visible minorities is 88 percent.

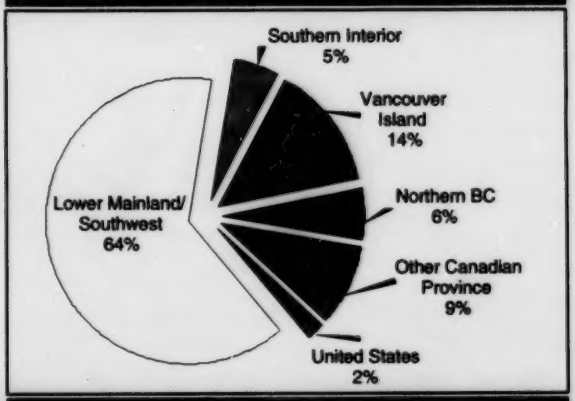
Overall, 42 percent of those who said they belonged to a visible minority were male. Comparing this to a survey participation rate of 37 percent for males who were not from a visible minority group, suggests that the gender participation rates for visible minorities in university are closer to being balanced.

Three percent of all respondents reported having a long-term physical or mental health disability. The greatest representation of those with disabilities was in Fine and Performing Arts (6%), Health Professions (6%), and Law (5%). Only 2 percent of all respondents identified themselves as Aboriginal persons. Law (6%), Social Sciences (3%), and Education (3%) had greater proportions of persons of Aboriginal descent than did other program areas.

Current Place of Residence

At the time of the survey, most respondents (89%) were residing in British Columbia, with almost two-thirds (64%) living in the Lower Mainland (see Figure 2-5). It is not surprising to note that 70 percent of respondents graduated from universities in the Lower Mainland (SFU and UBC). Nine percent of respondents were living in another province and 2 percent were in the United States. The tendency to stay within the province is clear; however, the percentage of graduates leaving BC may be underestimated, as the survey excluded those living outside North America and because locating graduates in other provinces can be more challenging than contacting those who remain in BC.

Figure 2-5: Current Residence of Graduates



Percentage of Respondents; n=6241

There was some variation in place of residence across program areas. Law graduates were more likely than graduates from other program areas to leave British Columbia; nearly one quarter (23%) were living in other Canadian provinces. Graduates from Natural Resources and Agriculture (23%) programs were the most likely of all to reside in Northern British Columbia, while graduates from Computing Science programs were the most likely to leave the country—10 percent of Computing Science graduates (n=16) were living in the United States. Other research has found that there are many factors that influence people in the high technology sectors to move to the United States for employment, including career advancement opportunities, a challenging leading edge work environment, and opportunities for training and development.[4]

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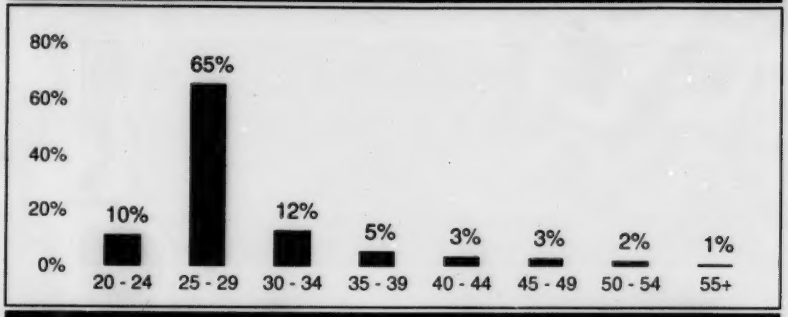

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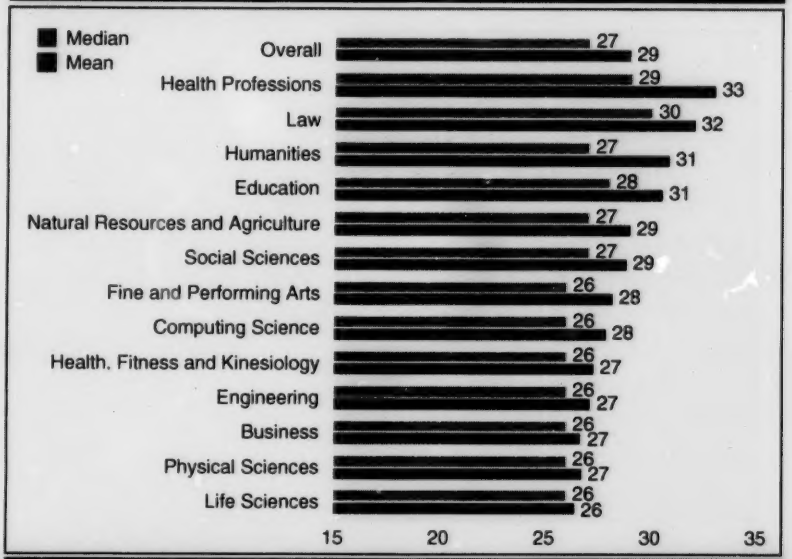

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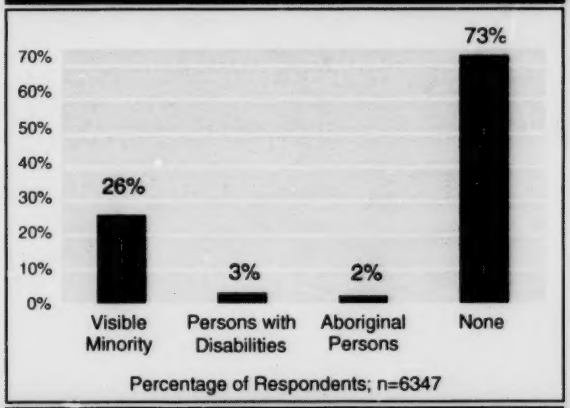

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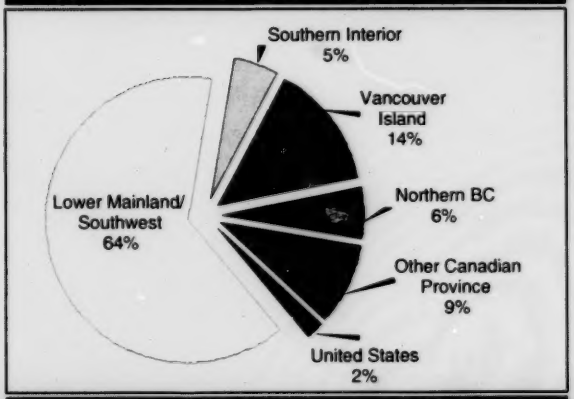

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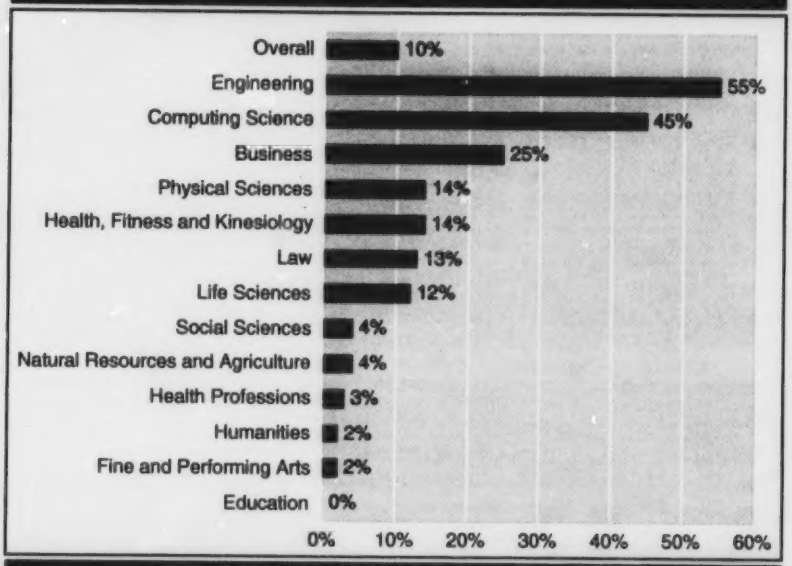
Co-op Experience

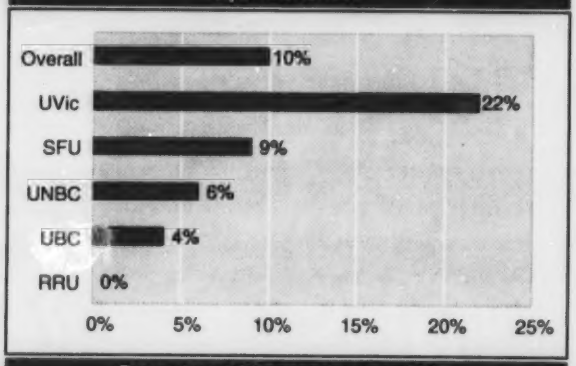
Co-operative education bridges the gap between the worlds of study and work by combining a balanced program of full-time paid work experience with the study periods required for an academic discipline. In some programs, such as Nursing and Education, students gain on-the-job experience through unpaid practicums, and in Law, students gain experience through articling. This kind of training is not defined as co-operative education and is, therefore, not reflected in the data on co-op completion.

Figure 2-6: Co-op Completion Rates by Program



About 10 percent of all respondents completed a co-op program while at university,[5] but the distribution of co-op completion varied considerably across program areas (see Figure 2-6). Both Engineering and Computing Science graduates had very high rates of co-op completion; 55 and 45 percent respectively completed a co-op program. As well, one quarter of Business graduates report having been co-op students. Graduates from Fine and Performing Arts (2%) and Humanities (2%) were the least likely to report completing a co-op program.

Figure 2-7: Co-op Completion Rates by Institution



Completion of co-op programs also varied by educational institution (see Figure 2-7). Of all institutions, UVic had the highest percentage of graduates from a co-op program,[6] while UBC had the lowest. RRU did not offer co-op programs.

5 For the 2000 survey, administrative data on co-op completion was collected. In previous years, data on co-operative education was collected from survey respondents.

6 There are a number of programs at UVic that have mandatory co-op components: Computer Engineering, Electrical Engineering, Mechanical Engineering, Business, Health Information Science, and Leisure Service Administration. None of the other institutions have mandatory co-op programs except SFU—their Engineering Science students are required to take co-operative education.

3. Educational Aspirations and Experiences

For baccalaureate graduates, obtaining a degree was the most common goal of a university education. About three-quarters of the 1998 graduates surveyed reported a successful university experience in that they achieved their primary goal. About three-quarters said they would choose the same program again, and virtually all respondents said they were satisfied with their education. Furthermore, most graduates reported that their educational experience had helped them develop a number of skills. In particular, almost three-quarters of respondents said that university helped to develop their abilities to write clearly and concisely and to compose logical arguments.

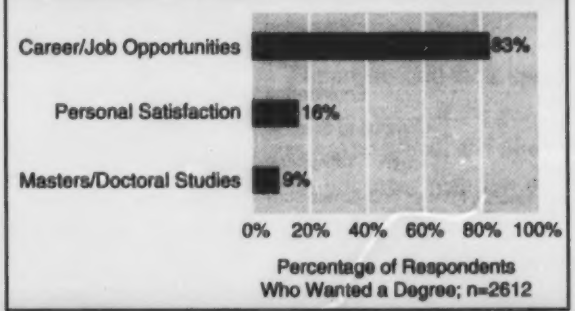
While university was a positive experience for the majority, there are some areas of concern. Course availability was an issue for many graduates—just over one half reported that there were courses they would have liked to have taken but were unable to because they were not available. Over one-third of graduates reported that it took them longer than anticipated to complete their degree, and while difficulty obtaining courses was a factor for some of these respondents, most of the reasons given to explain the delay were beyond the universities' control: the top three were personal or family reasons, financial reasons, and change of major.

Educational Goals

Graduates were asked to reflect upon the personal goals that led them to pursue their university education. Overall, 41 percent said obtaining a degree was their primary goal, while 19 percent reported they were pursuing a pre-chosen career, 10 percent were looking to decide on a career, and 8 percent wanted to acquire skills that would lead to employment.

Those respondents whose goal was to obtain a degree were asked where they hoped a degree would lead them. Most (83%) wanted the degree to open the door to career or job opportunities. Fewer graduates said they wanted to obtain a degree for personal satisfaction or to qualify for a masters or doctoral program (see Figure 3-1).

Figure 3-1 Top Three Reasons for Wanting a Degree



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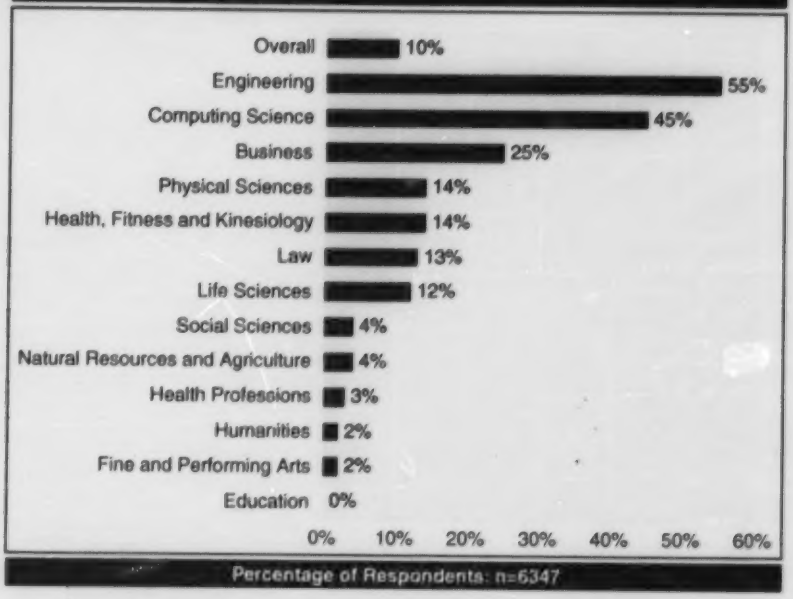

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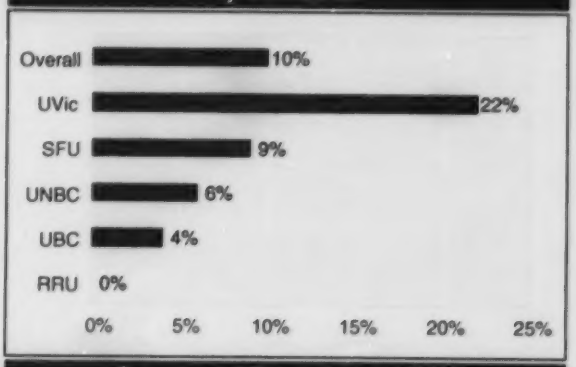

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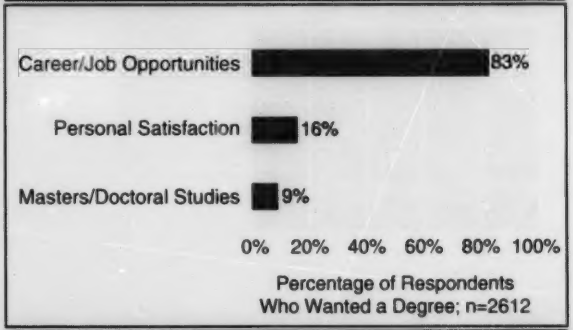


Note: Multiple responses exist for this question.

The proportion of graduates who took post-secondary education to pursue a specific career or change careers increased with age from 30 to 49 and declined after 50. Respondents over 50 were more likely than younger respondents to have taken post-secondary education to challenge themselves intellectually.

The ability of graduates to achieve their enrolment goals is a key indicator of the success of universities in responding to students' diverse educational objectives. Approximately 77 percent of all respondents reported that they "mostly" or "completely" achieved their primary goal. Goal achievement was consistently high across all program areas (see Figure 3-2). The program areas with the highest goal achievement tended to be programs students entered with the goal of pursuing a prechosen career, such as Education, Law, or Engineering.

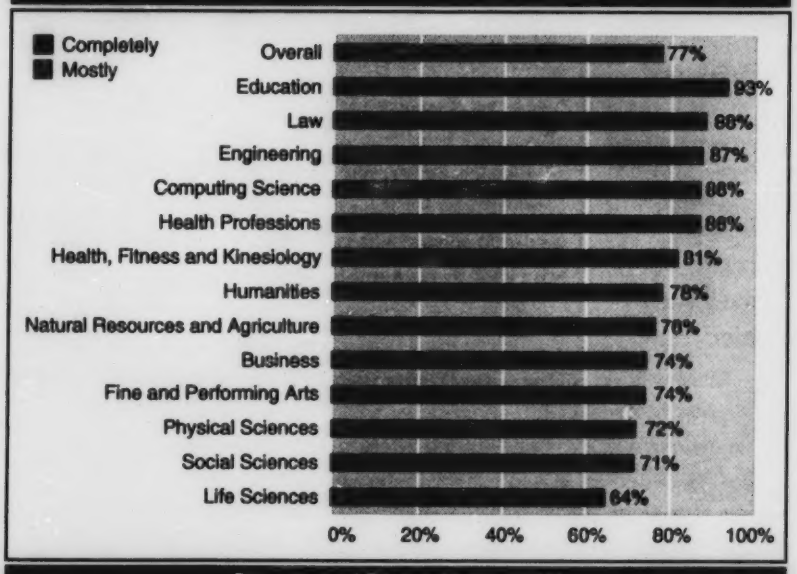
Universities were successful in delivering programs that met graduates' diverse goals; however, there was some variation in achievement across goals. The lowest achievement rate was for the goal, *to qualify for Masters or Doctoral Studies* (157 respondents had this goal, 96 achieved it), while the highest achievement rate was *to fill my time with worthwhile activity* (58 respondents had this goal, 52 achieved it).

In general, goal achievement was somewhat higher for less tangible goals such as *filling time with a worthwhile activity* and *challenging myself*, where there is no objective measure of achievement.

Older graduates reported somewhat higher levels of goal achievement than did younger graduates: the highest rate of goal achievement was 91 percent for graduates in the 45 to 49 year age range, while the lowest rate of goal achievement was 74 percent for those in the 20 to 24 age range. The difference in achievement rates may be due to the differences in type of goals across age. Older respondents were more likely to report less tangible goals, and, as previously reported, achievement was higher for less tangible goals.

Analysis also reveals that goal achievement differs by co-op completion. Co-op graduates were more likely to achieve their primary goal than were graduates who did not participate in co-op (84% versus 77%, respectively). This was the case even though the goals of co-op completers did not differ substantively from the goals of other graduates.

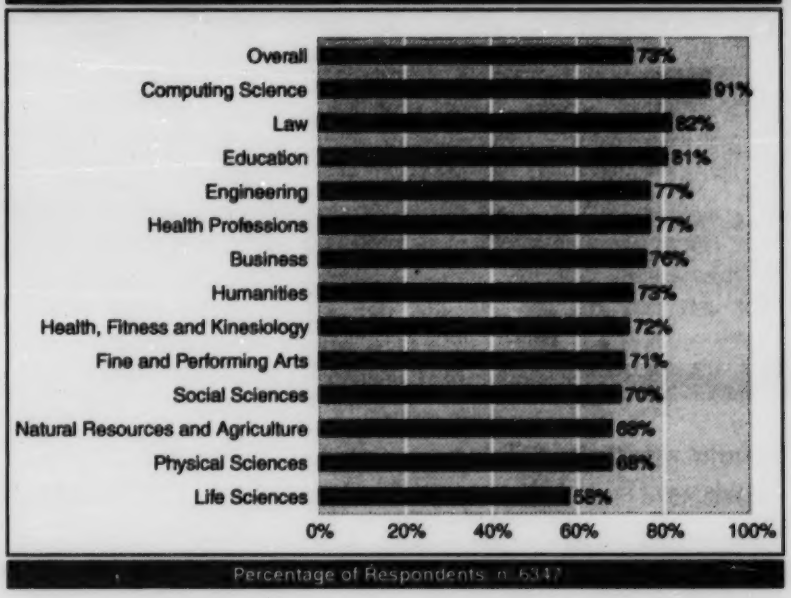
Figure 3-2: Graduates Who Completely or Mostly Achieved Primary Goal by Program



Satisfaction and Education Evaluation

Graduates' views about their university education were assessed in a number of ways. First, respondents were simply asked to indicate their level of satisfaction with the education program they had completed. Approximately 94 percent of graduates indicated they were "satisfied" or "very satisfied" with their program. This rate held almost constant across program areas: from 90 to 96 percent. As well, all institutions had satisfaction rates of 91 percent or higher.

Figure 3-3: Graduates Who Would Select Same Program Again by Program



A second method of determining graduates' views about their education was to ask them, given their experiences, whether they would select the same program again. Approximately 73 percent of respondents said they would select the same program again. The distribution of those who would select the same program, by program classification, is depicted in Figure 3-3. The program area with the highest proportion of respondents was Computing Science (91%); Life Sciences (58%) had the lowest percentage of respondents stating they would select the same program again. A comparison of Figure 3-2 and Figure 3-3 revealed that the program areas where graduates were most likely to achieve their goal, were also the ones where graduates would be more likely to select the program again.

Labour force participation and employment rates did not differ for those who would select the same program again compared with those who would not. However, there were differences in the degree to which they had training-related jobs. Respondents who would select the same program again were more likely than those who would not to have a job that was "very related" to their training (50% versus 25%).

A comparison of co-op versus non co-op graduates showed a small difference; co-op completers were more inclined than non co-op graduates to report they would choose the same program again (78% versus 72%).

Twenty-five percent of respondents indicated they would not select the same program. Of those respondents, approximately 29 percent said their interests had changed, 29 percent reported that the program they chose to take was not practical, and one-fifth stated that their program left them with few or no career opportunities. The top reasons are displayed in Figure 3-4.

Across programs, there were some differences in the reasons offered for why graduates would not select the program again. Social Sciences graduates were the most likely to feel that career opportunities were poor (30%), while Education and Health Profession

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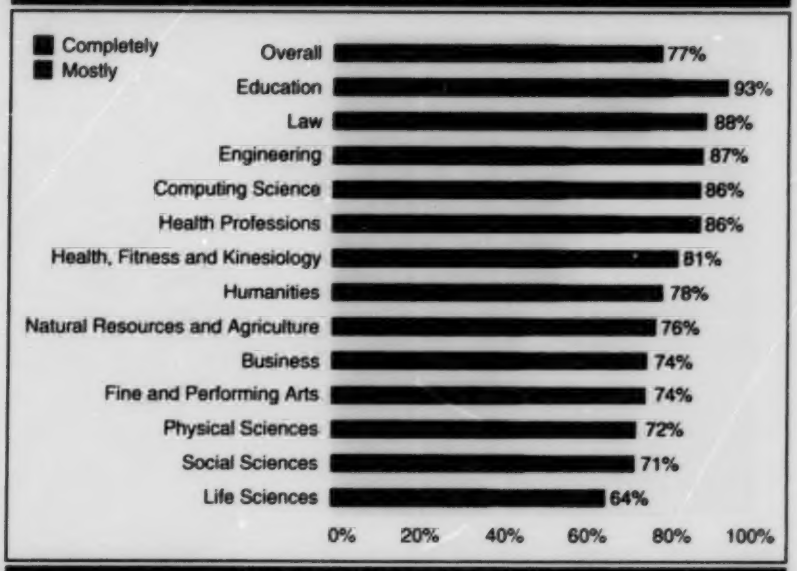

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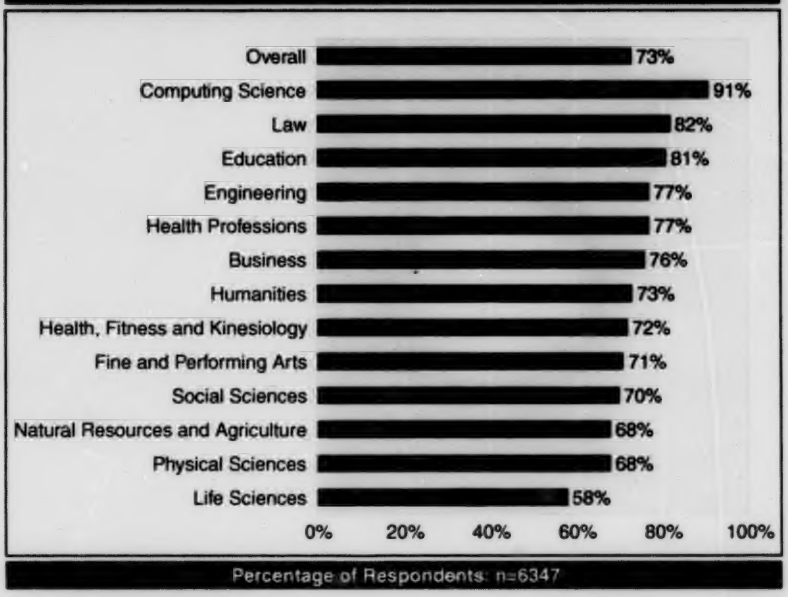

Percentage of Respondents: n=6347

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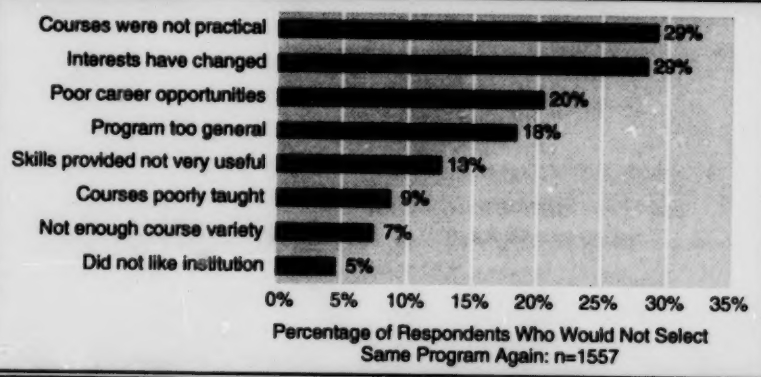
Figure 3-4: Top Reasons a Program Would Not Be Selected Again



Note: Percentages total over 100 as respondents could provide many reasons

graduates were the least likely to feel this way (5% and 2% respectively). Engineering graduates were the most likely to feel that their interests had changed (38%), followed by Physical Sciences graduates (36%). Education and Fine and Performing Arts graduates were the least likely to feel this way (15% and 16%).

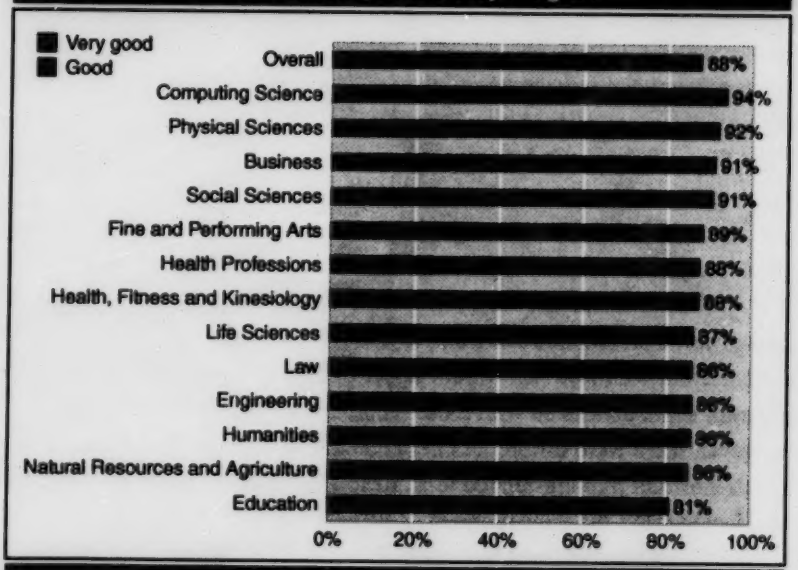
Fifty-one percent of Health Professions graduates and 43 percent of Education graduates who would not select the same program again reported that their program was not practical enough. Critiques that their program was too general were offered more often by Fine and Performing Arts graduates and Education graduates (23% and 24% respectively). Life Science graduates, the group least likely to take the program again, offered a variety of reasons. The three most frequently mentioned were: their interests have changed (33%), career opportunities were poor (24%), and courses were not practical (24%).

Only 11 Computing Science graduates stated that they would not take the same program again. Of these, three said their interests have changed, three indicated that the courses were not practical, and two did not like the institution.

A third method of assessing graduates' views about their university education was to ask them to rate the quality of course instruction in their program. Approximately 95 percent of respondents indicated that instruction was "good" or "very good" (64% rated instruction "good" and 30% rated it "very good"). All program areas received very high ratings for quality of course instruction, as did all institutions.

A fourth method used to determine graduates' views on their education was to ask them how well their required courses provided a full understanding of their field of study. Overall, 88 percent of respondents indicated that the required courses were "good" or "very good" at providing them with an inclusive understanding of their field (see Figure 3-5); the results ranged from 81 percent in Education to 94 percent in Computing Science.

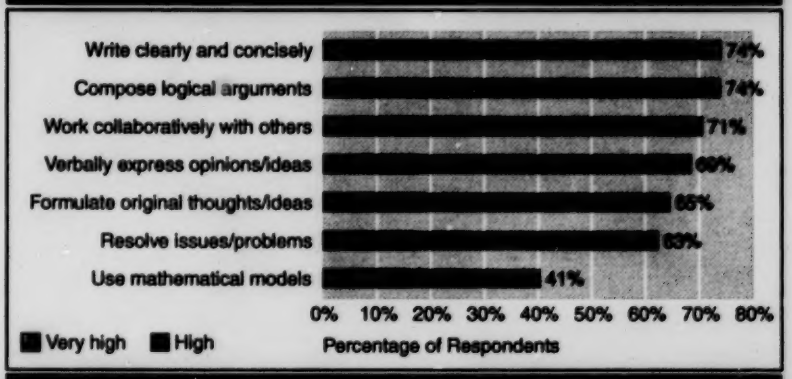
Figure 3-5: Required Courses Provided a Very Good or Good Understanding of Field by Program



Skill Development

The 1998 graduates were asked to determine the extent to which university assisted them in developing certain skills. Respondents could rate how university helped them develop abilities on a scale that went from "very high' to "very low." In addition, they could indicate that they had experienced no skill development or say that the skill was not applicable to their program. Of those who said the listed skills were applicable, most gave positive ratings (see Figure 3-6).

Figure 3-6: Graduates Who Rated Skill Development as Very High or High



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Almost three-quarters (74%) of respondents reported that university helped develop their abilities to write clearly and concisely and to compose logical arguments.

The skill least likely to be cultivated by the university experience was the use of mathematical models and methods to analyze data; 41 percent of respondents said they developed this skill at university. That figure does not include 12 percent of graduates surveyed, who said this item was not applicable to their studies.[7] There are few university programs that require the development of this particular skill.

Across program areas, Humanities and Social Sciences graduates gave high ratings to skills that involve expression through thinking and writing, while the more technical/applied program areas such as Engineering, Computing Science, and Physical Sciences tended to rate high on problem-solving skills and use of mathematical models to analyze data.

There were a few gender differences in skill development. The skill with the greatest gender difference was the ability to use mathematical models; males were much more likely than females to rate their development of this skill as "high" or "very high" (50% for males compared to 34% for females). This difference was noted for most programs, although was not as pronounced for some, such as Physical Sciences: 85 percent of males reported developing this skill versus 82 percent of females.

In addition, males were more likely to give high ratings to the development of the ability to compose logical arguments (77% versus 72%), although females in Law and Computing Science gave higher ratings to that particular skill. Females were somewhat more likely to give positive ratings to the development of their abilities to work collaboratively (73% versus 68%) and to write clearly (76% to 72%).

Co-op and non co-op graduates' perceptions of their skill development were compared for the five program areas that had at least 30 co-op respondents (Computing Science, Engineering, Business, Social Sciences, and Life Sciences). Although there was some variation across programs, generally speaking, a higher proportion of co-op students rated their skill development as "high" or "very high" in the following skill areas: working with mathematical models, working collaboratively with others, and problem resolution.

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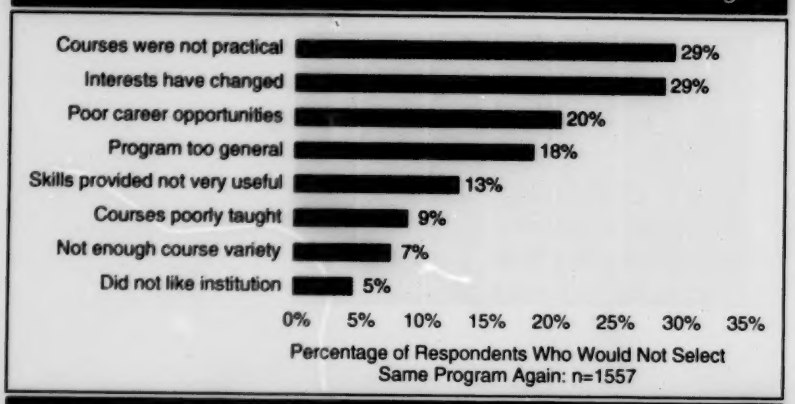
Figure 3-4: Top Reasons a Program Would Not Be Selected Again


Courses were not practical 29%
Interests have changed 29%
Poor career opportunities 20%
Program too general 18%
Skills provided not very useful 13%
Courses poorly taught 9%
Not enough course variety 7%
Did not like institution 5%
0% 5% 10% 15% 20% 25% 30% 35%
Percentage of Respondents Who Would Not Select Same Program Again: n=1557

Note: Percentages total over 100 as respondents could provide many reasons.

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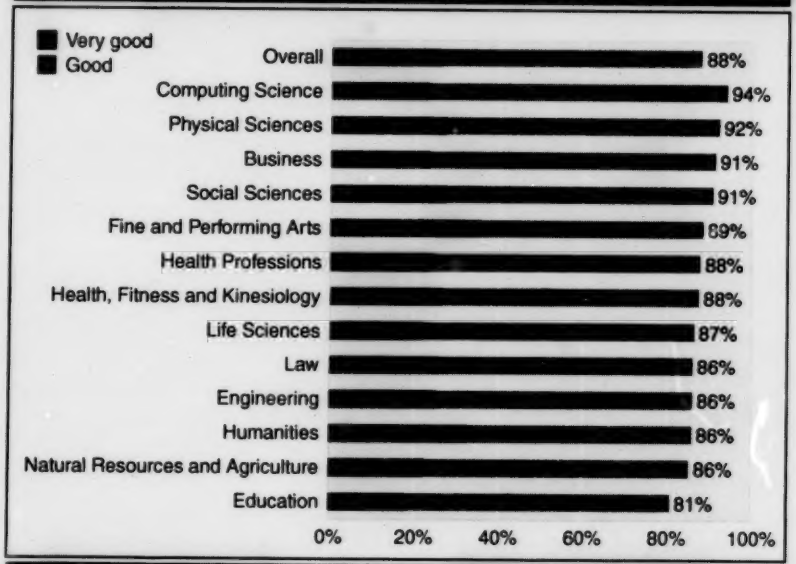

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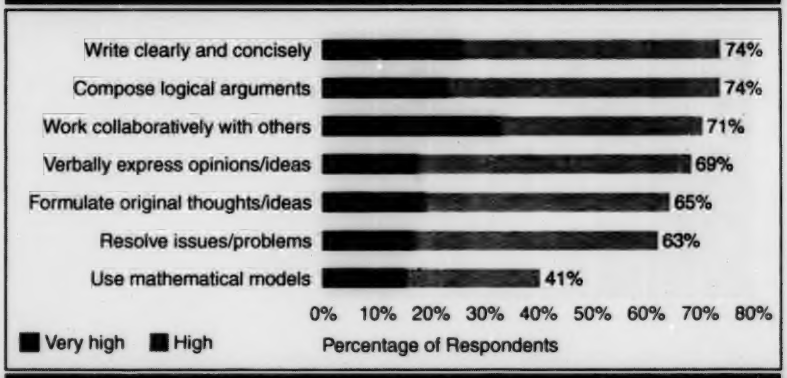

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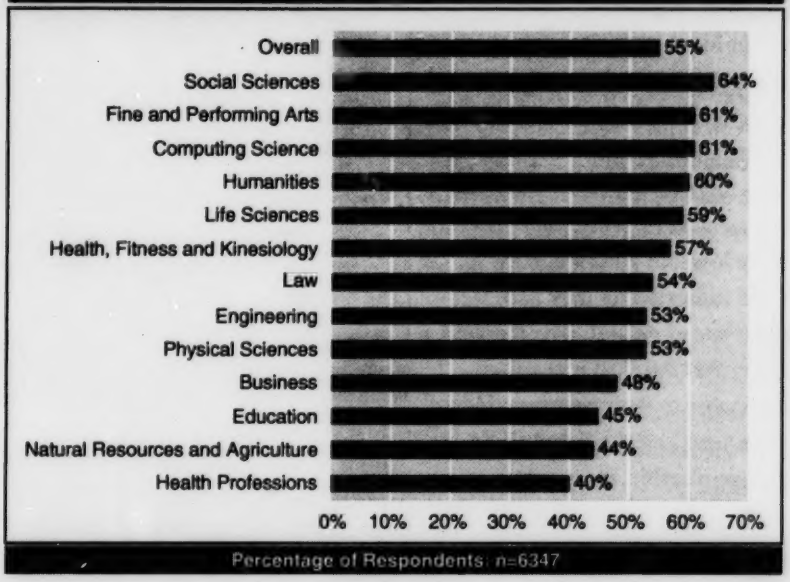
In some programs, co-op students tended to rate their development of certain skills less positively than did their non co-op counterparts. For instance, 56 percent of Computing Science graduates who participated in co-op rated their ability to formulate original thoughts as "high" or "very high" compared to 66 percent of non-co-op graduates in the same program, and 63 percent of non co-op Business graduates rated their ability to use mathematical models as "high" or "very high," while only 44 percent of co-op completers said the same.

Figure 3-7: Graduates Who Could Not Take All Desired Courses by Program

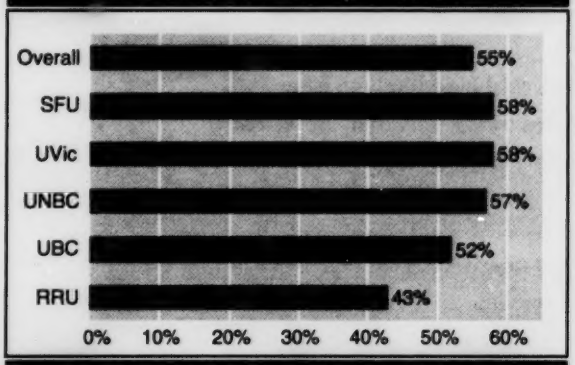


Course Availability

Course availability is an important issue to students as it has an effect on their ability to achieve their goals and to complete their degree on schedule. All respondents were asked if there were courses that they would have liked to have taken but were unable to because they were not available, not offered, always full, or had restrictive enrollment policies. Over one-half (55%) of respondents answered "yes" to this question. Figure 3-7 reports the percentages of respondents by program area who had problems with course availability. Across program areas, respondents who were unable to take all the courses they wanted ranged from 40 percent for Health Professions to 64 percent for Social Sciences.

There was some variation in course availability across institutions. RRU graduates were the least likely to encounter difficulties with course availability (43%),[8] while SFU (58%) and UVic (58%) graduates were the most likely to report difficulties (see Figure 3-8).

Figure 3-8: Graduates Who Could Not Take All Desired Courses by Institution



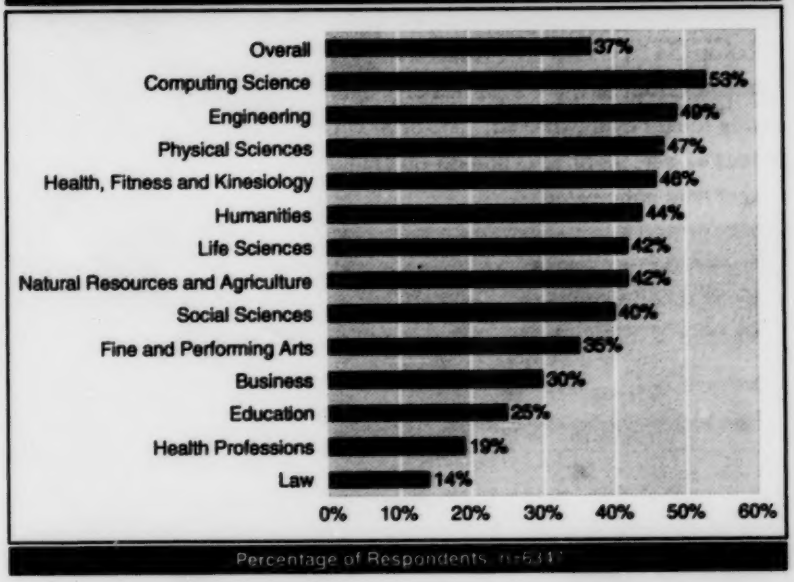
Delay in Completing Degree

To help provide new students with realistic expectations of the time commitment to university programs, it is important to gather information on why some people take longer than anticipated to complete their degrees. Therefore, all respondents were asked whether it took them longer to complete their de-

8 Royal Roads University's degree completion programs are offered as integrated, cohort-based programs. All learners are enrolled in all courses required for their programs. Course availability concerns likely refer to lack of electives rather than limited enrollment in required courses.

grees than they had originally anticipated, and if so, why. Overall, 37 percent indicated that degree completion took longer than expected. Figure 3-9 shows the variation across program areas. Those in Law programs were least likely to take longer than expected (14%). By contrast, over half of Computing Science graduates (53%) reported taking longer than they had anticipated.

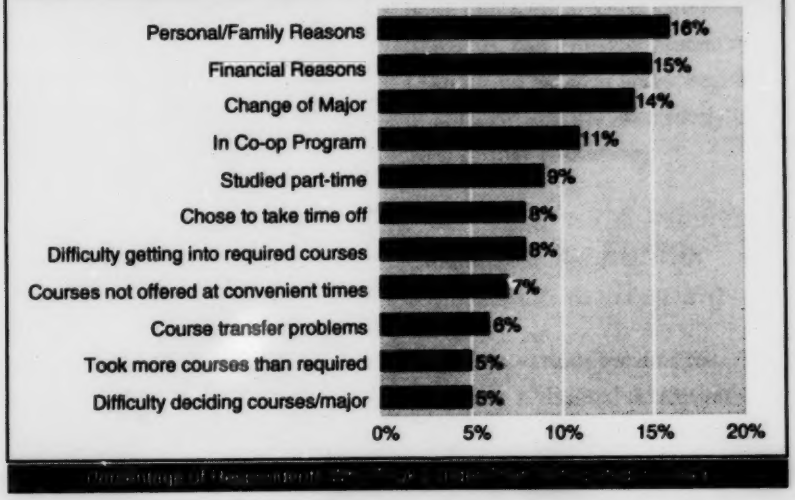
Figure 3-9 Graduates Who Took Longer Than Anticipated to Complete Degree by Program



Delay in completing the degree was related to course availability in that respondents who reported taking longer to complete were more likely to report encountering problems in course availability than were those who did not take longer to complete (63% versus 51%).

Reasons for delay in degree completion provided by at least five percent of respondents are displayed in Figure 3-10. Most of the reasons offered are not within the institutions' control. Overall, graduates cited personal or family reasons as the most common factor (16%), followed by financial reasons, changing their major, and participating in a co-op.

Figure 3-10: Top Reasons for Delay in Degree Completion


Personal/Family Reasons 16%
Financial Reasons 15%
Change of Major 14%
In Co-op Program 11%
Studied part-time 9%
Chose to take time off 8%
Difficulty getting into required courses 8%
Courses not offered at convenient times 7%
Course transfer problems 6%
Took more courses than required 5%
Difficulty deciding courses/major 5%
0% 5% 10% 15% 20%

Problems in course availability are lower on the list because it is separated into two reasons: courses not offered at convenient times (7%) and difficulty getting into required courses (8%).

Figure 3-11 depicts the distribution of respondents who reported taking longer than expected to complete their degree and shows a wide variation by institution. Almost one-half (49%) of SFU respondents and 38 percent of UVic graduates indicated that their program took longer than anticipated.

The above results may be partially explained by the fact that graduates from SFU and UVic were more likely to be in co-op programs than those from RRU, UBC, and UNBC. Graduates who

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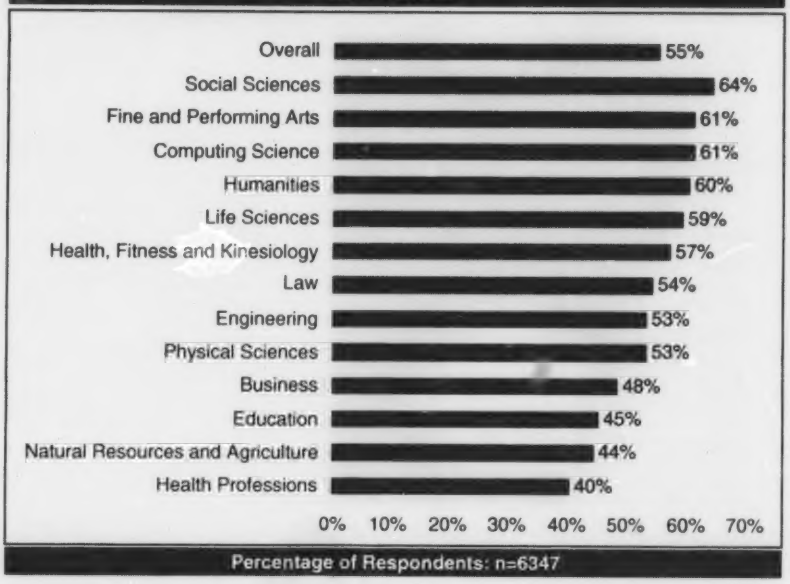

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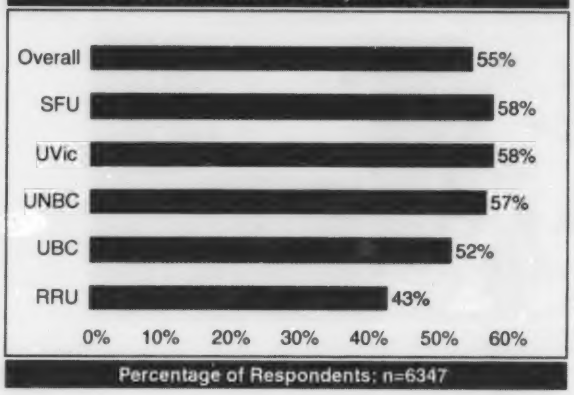

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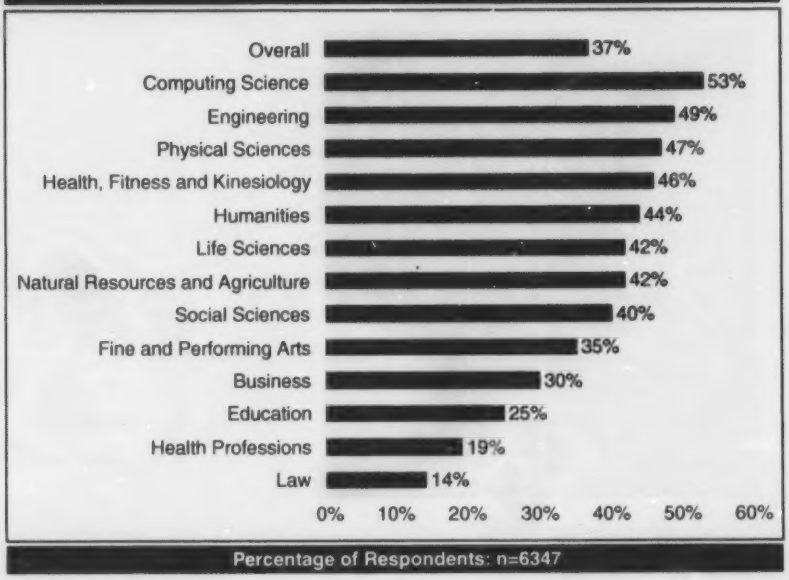

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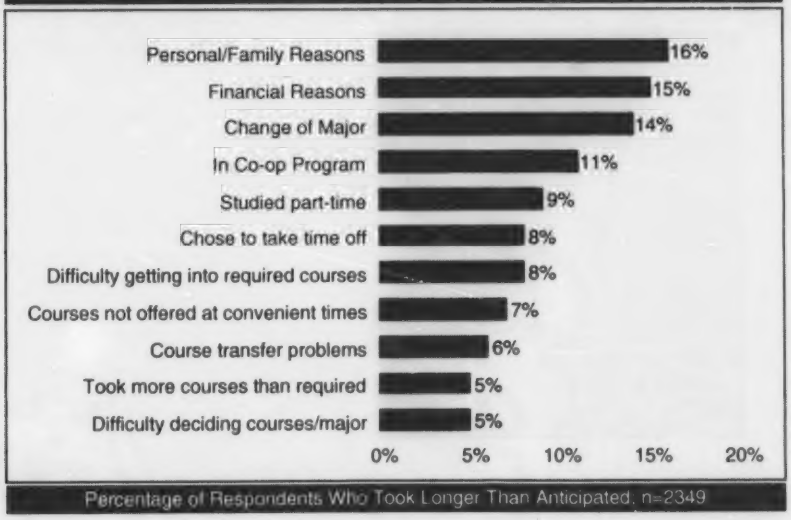
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Percentage of Respondents Who Took Longer Than Anticipated, n=2349

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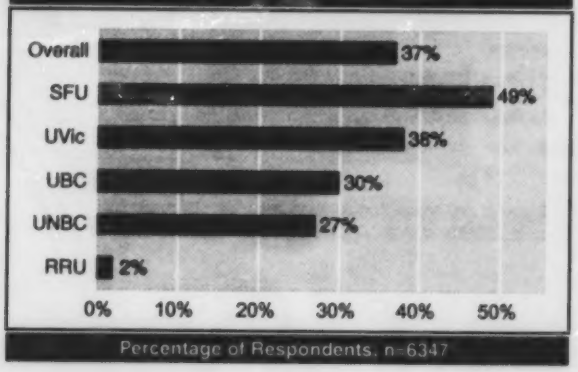
The above results may be partially explained by the fact that graduates from SFU and UVic were more likely to be in co-op programs than those from RRU, UBC, and UNBC. Graduates who

had participated in co-op programs were much more likely to report taking longer to complete their degree programs than those who did not participate in co-op (54 % versus 35% respectively). Co-op graduates from SFU were particularly likely to report taking longer than expected: 75% of SFU co-op versus 47 percent of SFU non-co-op graduates took longer than anticipated.

Figure 3-11: Graduates Who Took Longer Than Anticipated to Complete Degree by Institution



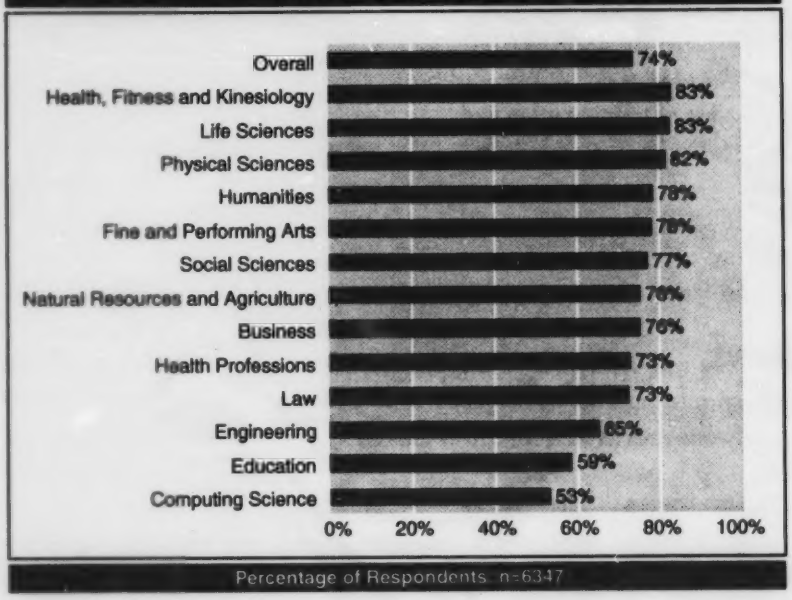
Graduates from SFU were also more likely than those from other institutions to report the following reasons: difficulty getting into required courses, financial reasons, and studied part-time. Appendix D provides a complete breakdown of all reasons offered by graduates from each institution.

Other reasons for delay of degree completion were similar across institutions, with the exception of UNBC. Course transfer problems were cited as the primary reason for delay of degree completion by a greater proportion of UNBC respondents than by graduates from other institutions. However, there were only 54 UNBC graduates who reported taking longer to complete. Of these, 13 reported course transfer problems and seven reported that they took longer because courses were not being offered at convenient or desirable times.

4. Further Education

In keeping with the findings from previous University Baccalaureate Graduate Surveys, about three-quarters of the 1998 graduates reported seeking further education. The participation rate of graduates from some programs, such as Health, Fitness, and Kinesiology or Life Sciences, is even higher. While almost half of those taking further studies went back to university, the most common goal of those pursuing further education or training was to improve job skills, suggesting that graduates are trying to keep pace with the dynamic nature of today's job market.

Figure 4-1: Graduates Who Took Some Further Education or Training by Program



Further Education or Training

Most graduates (74%) went on to seek some type of further education after university. Of those who went on to further education or training, almost half (46%) were enrolled at the time they were surveyed; of those, 55 percent were attending on a full-time basis and 45 percent, part-time.

Some program areas were more likely than others to lead to further education (see Figure 4-1). Graduates who most often reported taking further education or training were from Health, Fitness, and Kinesiology, Life Sciences, and Physical Sciences. Computing Science and Education graduates were the least likely to seek further education.

Reasons for Further Education or Training

There are various reasons for acquiring additional education and training, ranging from qualifying for a masters or doctoral program to wanting a career change. The most frequently mentioned reasons for enrolling in further education or training are provided in Figure 4-2. One-quarter of respondents were seeking to improve their existing job skills, and another 17 percent indicated they were pursuing a specific career. A further 13 percent of respondents reported they undertook additional education or training to acquire skills that would lead to employment. Of the remainder, almost one-fifth

had participated in co-op programs were much more likely to report taking longer to complete their degree programs than those who did not participate in co-op (54 % versus 35% respectively). Co-op graduates from SFU were particularly likely to report taking longer than expected: 75% of SFU co-op versus 47 percent of SFU non-co-op graduates took longer than anticipated.

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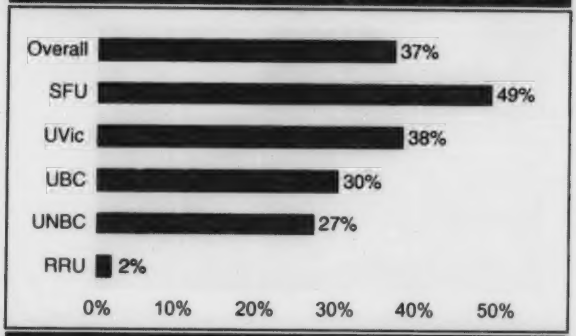

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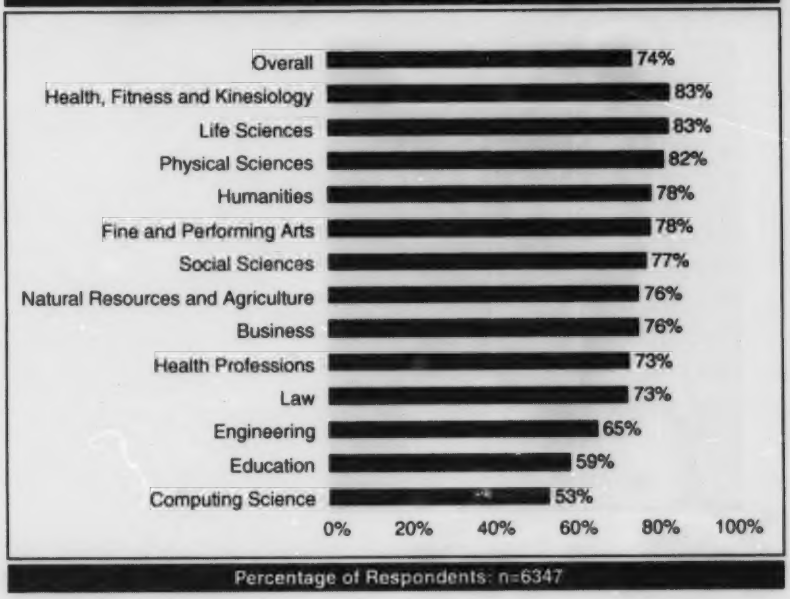

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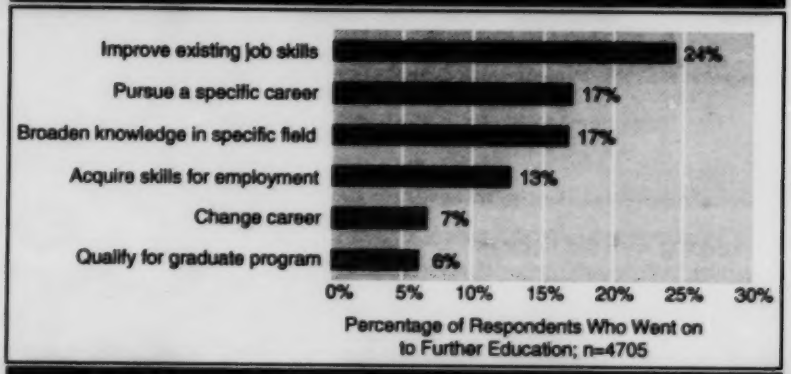
(17%) reported they wanted to broaden their knowledge in a particular field of study.

Figure 4-2: Top Reasons for Enrolling in Further Education or Training

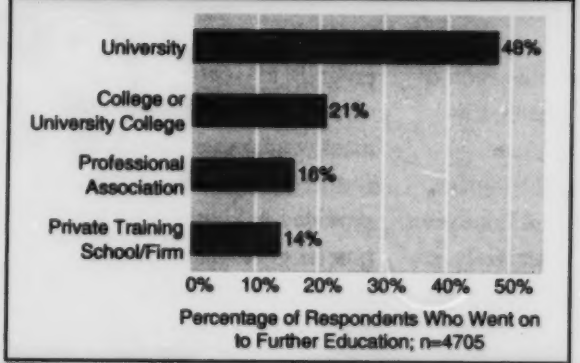


Note: All reasons listed were offered by at least 5% of respondents

Taken as a whole, it appears that the majority of graduates who obtained further education or training wanted to improve their employment skills. Note though, that employment rates were the same for those who took further education as for those who did not. Those who pursued further education or training often had reasons that were different from their original reasons for attending university (reported in Chapter 3). The goal of most respondents who took further education was not to obtain a degree but to improve existing job skills.

Of those who went on to further studies, almost one-half enrolled in a university (see Figure 4-3) and nearly one-quarter in a college or university college.

Figure 4-3: Top Four Sources of Education or Training



Note: Multiple responses exist for this question

The least likely sources for further education and training (not shown in Figure 4-3) were correspondence schools (3%), employer (3%), and private tutoring (1%). Thus, most graduates went on to seek formal education at a university or college as opposed to short-term training programs, such as those offered through employers.

Reasons for enrolling in further education varied by program area. Graduates from Health, Fitness, and Kinesiology were more likely to report they enrolled in further education to pursue a pre-chosen career. Respondents from Education, Health Professions, and Computing Science were most likely to say they wanted to improve their existing job skills.

The selection of training providers for further education varied according to program. Computing Science graduates were more likely than others to obtain further education from a private training school. Law graduates were more likely to seek training from a professional association than were others, while graduates from Health Professions were more likely to have received training from their employer.

5. Education Financing and Debt

Over the past decade, much attention has been paid to the costs of education and the levels of student indebtedness in Canada. To gain an understanding of the financing and debt issues baccalaureate graduates of BC universities experience, the BC University Baccalaureate Graduate Survey included a number of questions related to education financing and indebtedness.

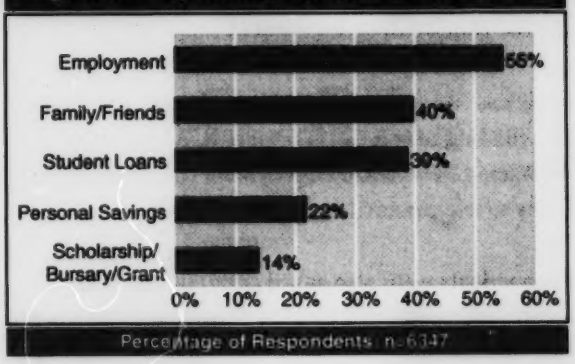
More than 50 percent of 1998 graduates identified employment as one of their top two sources of education funding, reporting that they used employment to cover, on average, over half of their education costs. Many respondents also cited the importance of family and friends in financing their education—when used, that source of funding covered an average of 63 percent of education costs.

Almost one-half of graduates reported incurring some amount of debt to pay for their education, and the largest part of that debt was in the form of government-sponsored student loans. On average, co-op completers had lower amounts of student loans than did non co-op graduates suggesting that, in addition to academic and career advantages, there are some immediate financial benefits to co-operative education.

Top Sources of Education Financing

Graduates were asked to identify the top two sources of funding that helped them pay for the education program they completed in 1998. Figure 5-1 shows the five most common sources of education funding and the percentage of respondents who reported each of them as one of their top two sources.

Figure 5-1: Top Sources of Education Funding



Just over one-half of graduates (55%) named employment earnings as one of their top two sources of funding. Family and friends, and student loans were each identified by about 40 percent of respondents, while less than a quarter identified personal savings and about one-seventh mentioned scholarships, bursaries, and grants.

Sources of funding did not differ by gender, but did vary by age. The proportion of respondents who used their own savings tended to increase with age, from 21 percent for 20 to 24 year-olds, to 40 percent for those 55 and over. Family and friends as a source declined with age, from 57 percent for 20 to 24 year-olds, to 14 percent for those 55 and over. The likelihood of using student loans was greatest for those between 30 and 40—over 50 percent, compared to 22 percent for 20 to 24 year-olds and 12 percent for those 55 and over. The youngest age group, those 20

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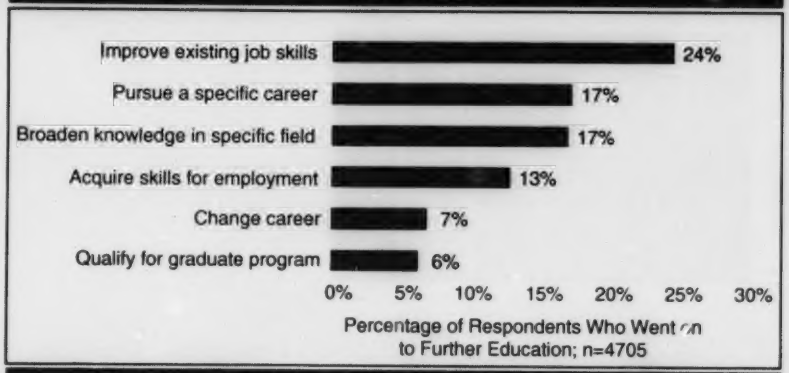

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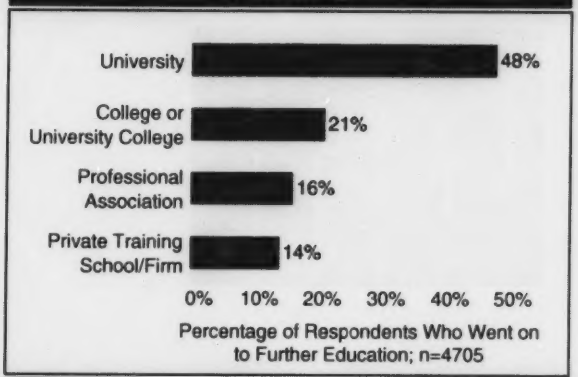

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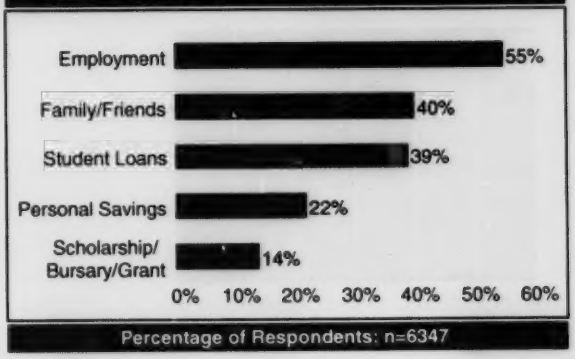

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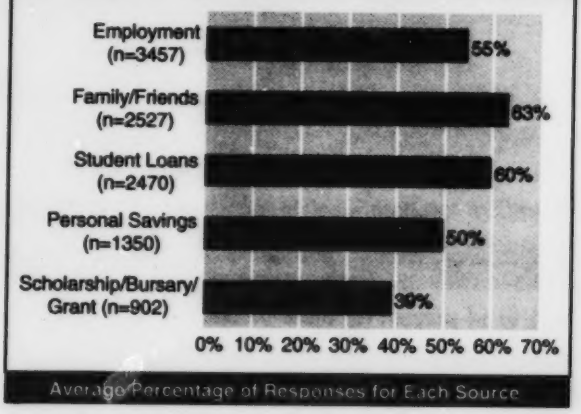
to 24, was more likely than others to use scholarships, bursaries, and grants (28%, compared to 14% overall).

There were some notable differences in sources of funding used by graduates of different institutions. SFU, UBC, and UVic graduates cited employment as being the most common source, followed by student loans and family and friends; this pattern was similar to the overall patterns shown in Figure 5-1. Graduates from RRU and UNBC, however, were more likely to obtain student loans (74% and 53% respectively) and less likely to report scholarships, bursaries, or grants among their top two sources (0 and 5%, respectively). In addition, UNBC respondents were less likely than others to cite family and friends as a funding source (27%), while RRU respondents were less likely to use employment (23%) but more likely to use personal savings (34%).

Respondents were also asked approximately how much—expressed in percentages—each of their top two sources of funding helped to cover the cost of their education.[9] Figure 5-2 depicts the relative contribution to education costs made by each of the top two sources of funding.

Figure 5-2: Average Percentage of Education Costs Covered by Each Funding Source



For those who reported that employment was one of their top sources of funding, employment earnings contributed, on average, 55 percent toward their education funding. For those who reported family and friends as a source, the average amount contributed was 63 percent, and for graduates who had student loans, the borrowed funds covered 60 percent of education costs.

Debt Incurred to Finance Education

Overall, 47 percent of respondents reported incurring some debt to pay for their educational program. This means that, in spite of the popular concern that all graduates are burdened with heavy debt loads, over one-half of respondents did not incur any debt to pay for their university education.

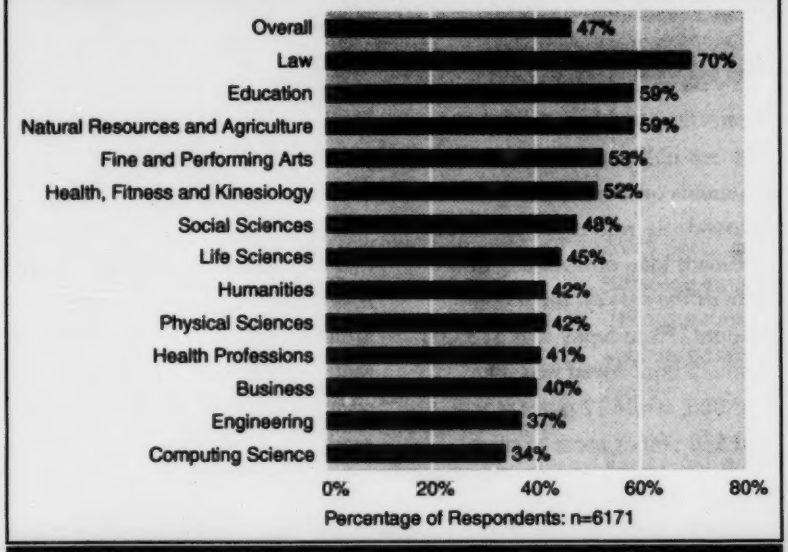
The likelihood of incurring debt varied somewhat by program (see Figure 5-3). Graduates from Law were most likely to borrow, which may be partially explained by the fact that law programs have relatively high tuition fees, and law students are in school longer and have often completed a baccalaureate before entering law school. In addition, respondents from Law programs were less likely to report employment among their top two sources of funding.

Graduates from Computing Science and Engineering programs were the least likely to incur debt. This may be because they had the greatest participation in co-op programs and were more likely to use employment as a source of funding (57% and 64% respectively). On the other hand, Law and Education graduates were among the most likely to incur debt; 48 and 49 percent respectively cited employment as a source of funding.

Overall, there was a small difference between co-op and non co-op graduates in terms of incurring debt (42% versus 48% respectively). When debt is analyzed simultaneously by program and co-op it is

[9] For 91 percent of respondents, the two percentages they provided added to 100 percent. This suggests that 91 percent of respondents got all of their education funding from their two top sources; however, it is possible that some respondents misunderstood the question and provided a breakdown out of 100 between their top two sources.

Figure 5-3: Graduates Who Incurred Debt by Program



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evident that lower average debts among co-op completers were accounted for by graduates from Natural Resources and Agriculture, Social Sciences, Life Sciences, and Physical Sciences co-op programs. Respondents from these programs were more likely to use employment as a source of funding (from 55% to 59%).

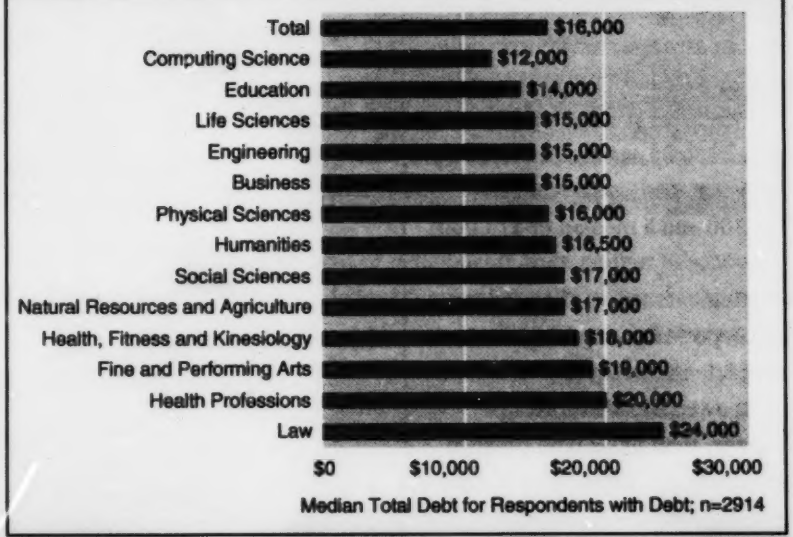
Graduates under age 29 and over age 45 were less likely to incur debt than were those between 30 and 44 years of age. Those in the middle age range likely had more financial responsibilities (due to raising families, for example), were less likely to have family support than younger respondents, and had fewer financial resources than older adults. There were no gender differences in terms of acquiring debt.

For the 47 percent who reported incurring debt, the median debt was $16,000 and the average total debt was $18,680. However, there was substantial variation in the amount owed by graduates: while about a third owed $10,000 or less, eleven percent owed over $35,000.

Respondents who had debts over $35,000 were about three times as likely to be between 30 and 49 as were those with debts less than $10,000. Comparing respondents with debt over $35,000 to those with debt under $10,000 by program showed that graduates from Law were slightly more likely to be in the higher category (7% versus 2%) as were those from Fine and Performing Arts (6% versus 3%). Graduates from Business (5% versus 9%) and Life Sciences (5% versus 11%) were more likely to be in the lower debt category.

There were some variations in total median debt incurred by program area (see Figure 5-4). Not only were Law graduates more likely to borrow, they tended

Figure 5-4: Median Total Debt Incurred by Program



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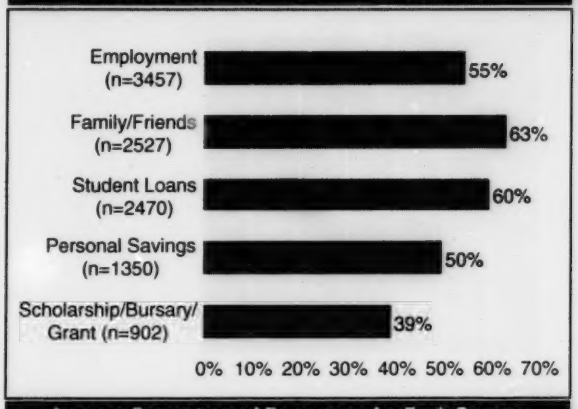
to 24, was more likely than others to use scholarships, bursaries, and grants (28%, compared to 14% overall).

There were some notable differences in sources of funding used by graduates of different institutions. SFU, UBC, and UVic graduates cited employment as being the most common source, followed by student loans and family and friends; this pattern was similar to the overall patterns shown in Figure 5-1. Graduates from RRU and UNBC, however, were more likely to obtain student loans (74% and 53% respectively) and less likely to report scholarships, bursaries, or grants among their top two sources (0 and 5%, respectively). In addition, UNBC respondents were less likely than others to cite family and friends as a funding source (27%), while RRU respondents were less likely to use employment (23%) but more likely to use personal savings (34%).

Respondents were also asked approximately how much—expressed in percentages—each of their top two sources of funding helped to cover the cost of their education.[9] Figure 5-2 depicts the relative contribution to education costs made by each of the top two sources of funding.

Figure 5-2: Average Percentage of Education Costs Covered by Each Funding Source



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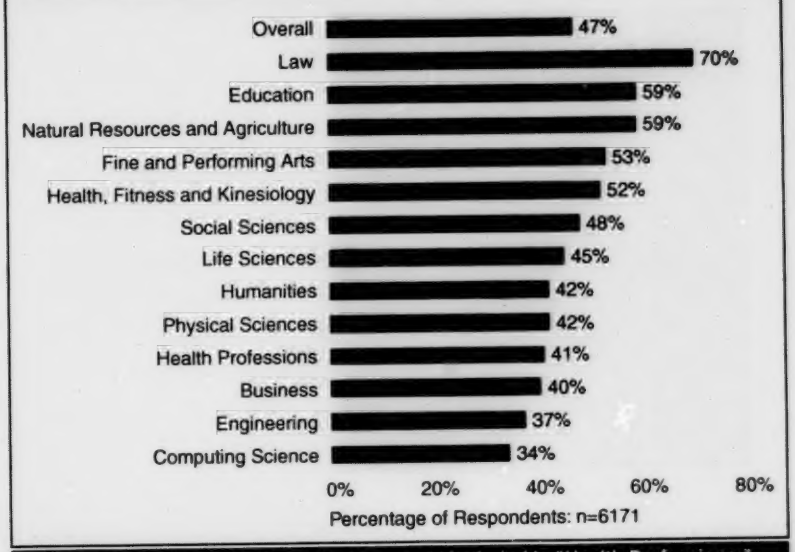

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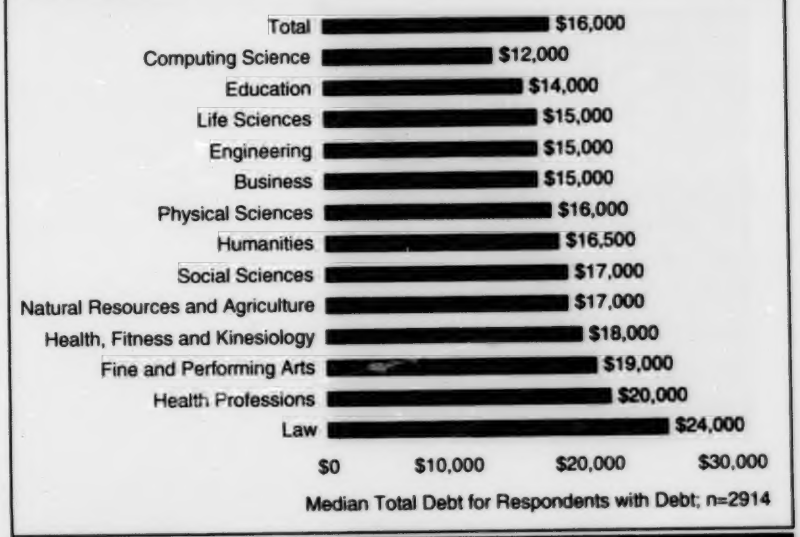

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to borrow more; Law graduates had the highest median debt load. Computing Science respondents were the least likely to borrow, and those that did, tended to borrow less.

Student Loan Debt

About 42 percent of all graduates surveyed reported having a government-sponsored student loan. Of those, the median student loan debt was $16,000 and the average student loan debt was $17,130. About 80 percent of total debt was student loan debt. A third of respondents with student loans owed $10,000 or less, while about 13 percent reported owing $30,000 or more.

Of those who had student loan debt, Law graduates reported the highest median debt, while Education graduates reported the lowest ($21,000 versus $14,750, respectively). Respondents between the ages of 45 and 49 owed the most, with an average student loan debt of $22,700, and a median debt of $23,000. The youngest graduates, aged 20 to 24, owed the least, with a mean student loan debt of $13,300 and a median of $13,000.

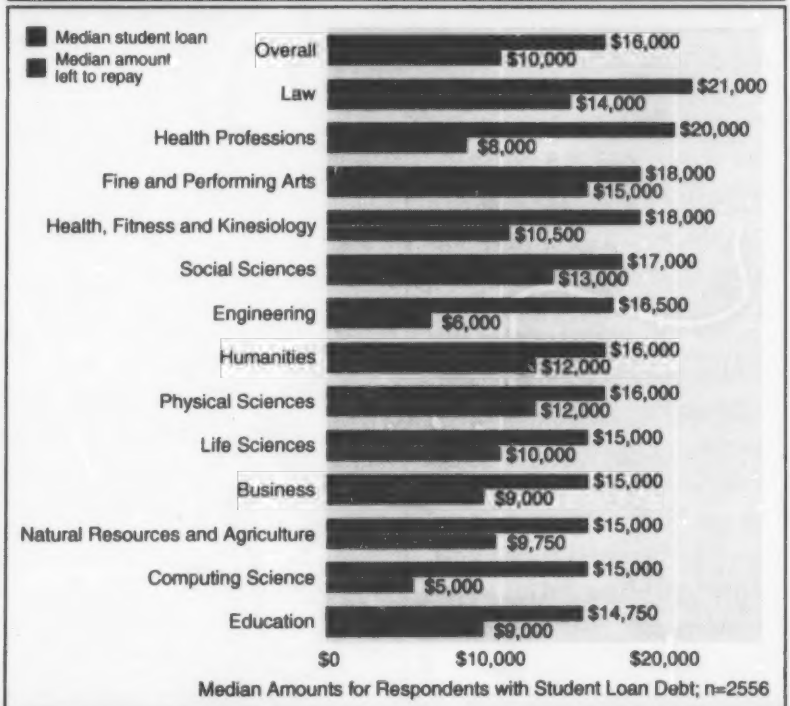
Respondents with a student loan who reported taking longer to complete their degree than anticipated owed $1,000 more, on average, than those who finished on schedule. Of respondents with a student loan, co-op completers owed almost $3,000 less than those who did not complete co-ops.

Generally graduates have to start repaying their student loan within six months of leaving school. Respondents were surveyed about two years after graduation, which means they had had at least one and one-half years to make payments on their loans. Of those respondents who reported having a student loan outstanding at the time of the survey, the median amount left to repay was $15,000. About a third owed less than $10,000, while 12 percent still had $30,000 or more to repay.

Figure 5-5 displays the median amount of student loans that respondents borrowed for each program and the median amount they had left to repay at the time of the survey. Including those who had paid off their loans completely, Fine and Performing Arts graduates had the highest amount left to repay, while Health Professions graduates had paid off most of their loans.

The proportion of the loan that had been repaid is not directly related to the size of the loan, although this is probably one factor. Income level is likely another factor. For instance, graduates from Law, Computing Science, Engineering, and Health Professions had the highest incomes (see Chapter 6) and were paying off their loans at a faster rate than were respondents from other program areas.

Figure 5-5: Median Student Loan and Amount Left to Repay



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6. Labour Market Outcomes

High levels of labour force participation and employment are important indicators of a successful university education and transition to the labour market. By that measure, BC universities are very successful, since a large majority of 1998 graduates were in the labour force, and most of them were employed.

Close to two-thirds of employed graduates surveyed were working in professional occupations, that is, those kinds of occupations that require a university degree.[10] About three-quarters of employed respondents indicated that their job was related to their degree program. This is significant because graduates who obtained employment in an area related to their training tended to have higher median incomes than those working in unrelated jobs. Not surprisingly, those with training-related employment were more likely to report that a bachelor's degree was required for their job.

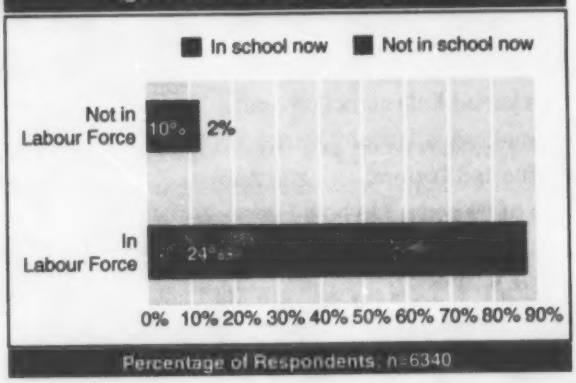
The earnings of respondents varied widely according to their program of study. Law graduates had the highest median salary, while Fine and Performing Arts graduates reported the lowest. Education graduates were in the middle: their median annual salary of $37,000 matched the median for all graduates.

Labour Force Participation

Graduates who are working, have paid jobs lined up, or are looking for work are considered to be participating in the labour force. A high level of labour force participation is an indication that graduates are pursuing employment opportunities rather than devoting themselves exclusively to other activities, such as going to school or staying home to raise a family.

Figure 6-1 provides a breakdown of respondents based on whether or not they were in the labour force and whether or not they were going to school at the time of the survey. The majority of graduates (88%) were in the labour force. Almost two-thirds of all respondents were in the labour force and not going to school, while 10 percent were in school and not in the labour force.

Figure 6-1: Labour Force Status



Two percent of respondents were neither in school nor in the labour force; they cited personal reasons for being out of work, such as personal preference, other responsibilities, permanently unable to work, caring for children full-time, or retirement.

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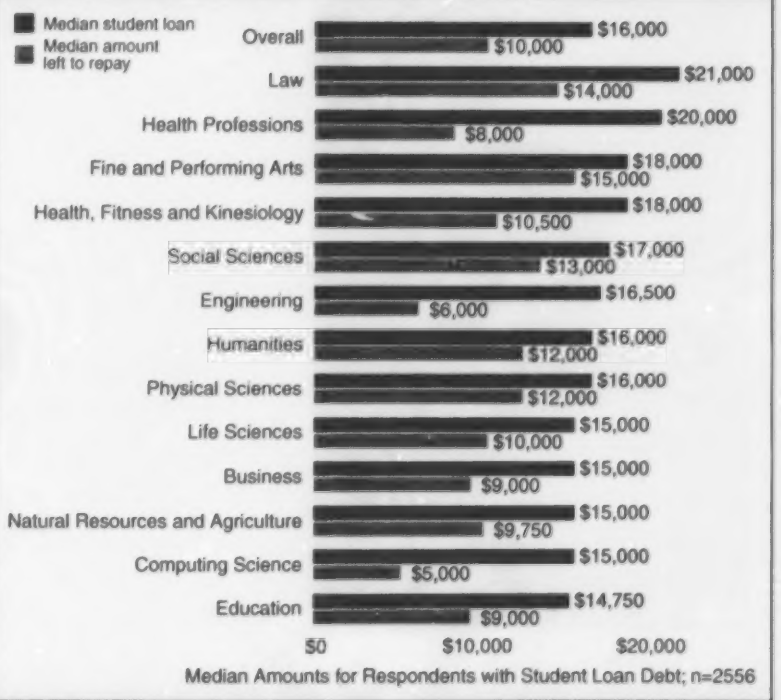

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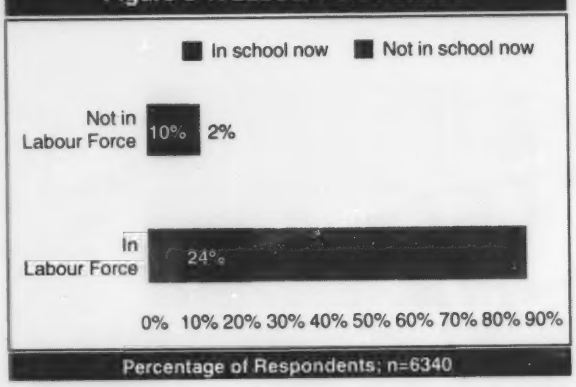

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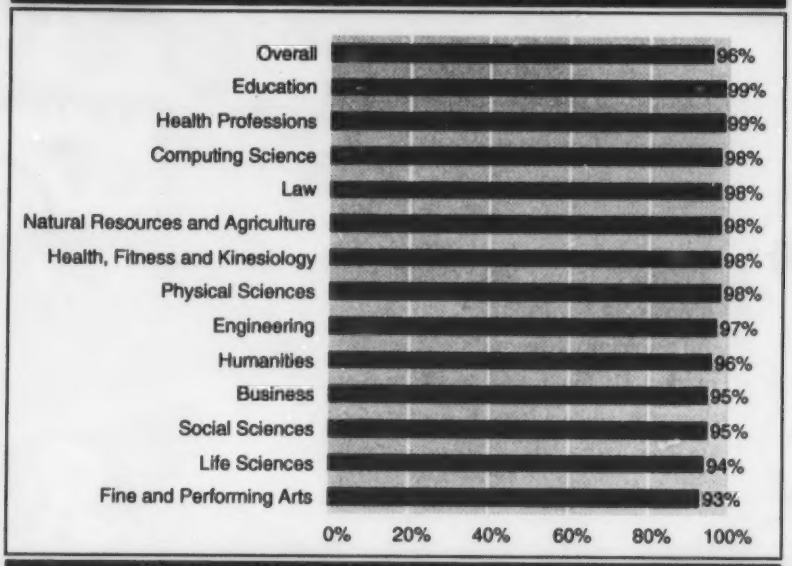
The highest percentage of graduates in the labour force were from Computing Science (98%), Education (98%), Law (97%), and Health Professions (96%). Graduates from Life Sciences and Physical Sciences were least likely (68% and 79%, respectively) to be in the labour force.

Across program areas, those graduates most likely to be both working and in school were from Business programs (48%)—those least likely to be doing both were Law graduates.

Figure 6-2: Employment Rate by Program



Percentage of Respondents in the Labour Force| n=5568

Employment Rate

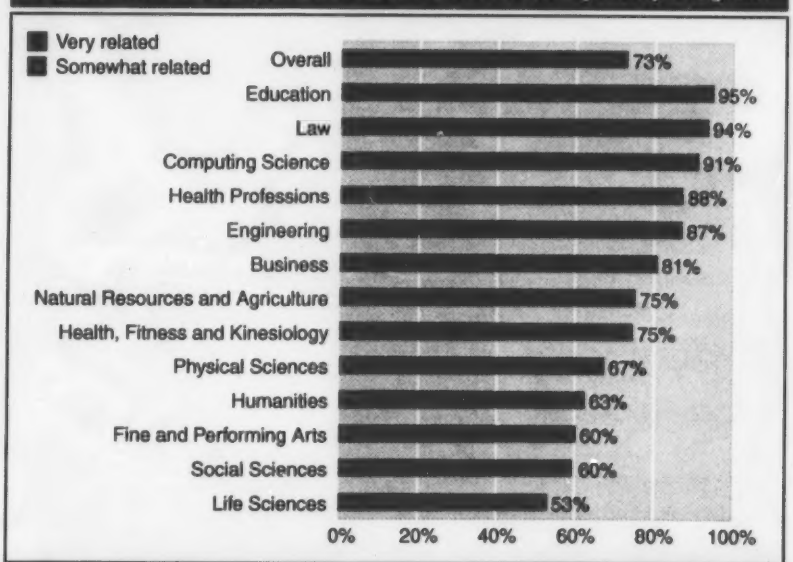
The employment rate is the percentage of graduates in the labour force that were employed or had a paid job lined up at the time of the survey. The employment rate for graduates, at 96 percent, was very high, and the rates varied little across programs areas—from a low of 93 percent in Fine and Performing Arts to a high of 99 percent in both Education and Health Professions (see Figure 6-2).

When asked how related their job was to the program they had completed, 73 percent of respondents indicated their job was "somewhat" or "very related."[11] About 16 percent of respondents indicated that their job was "not at all related" to their degree program.

Figure 6-3 displays job relatedness by program classification. The vast majority of graduates from Law and Education had jobs that were "somewhat" or "very related" to their degrees.

Respondents from Life Sciences and Social Sciences programs were less likely than other graduates to be employed in positions that were related to their educational training.

Figure 6-3: Job Very or Somewhat Related to Degree by Program



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Those who completed co-op education were more likely than non co-op graduates to be in jobs that were "very" or "somewhat" related to their education (see Figure 6-4). In turn, a higher proportion of non co-op graduates were working in jobs that were not at all related to their education.

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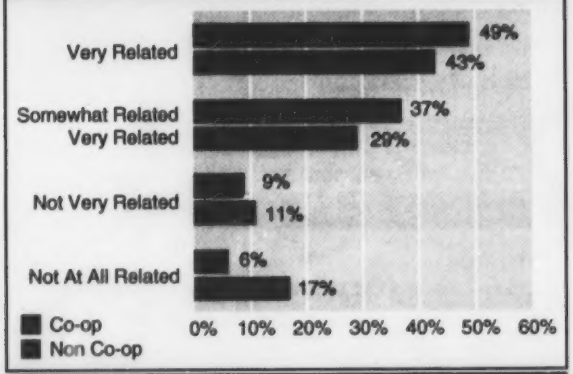

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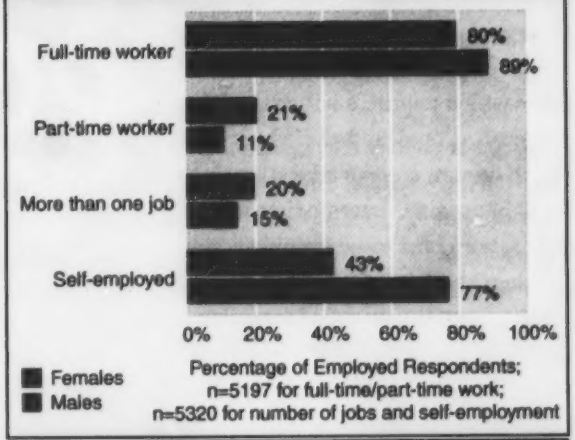
Characteristics of Employment

Figure 6-5 displays the characteristics of employment for 1998 graduates. The majority of employed respondents (83%) reported working on a full-time basis (30 or more hours per week), and 18 percent of employed respondents had more than one job. More females than males reported working part-time (20% versus 11%).

Six percent of those who were working reported being self-employed. The characteristics of self-employment do not present any surprises. For example, Fine and Performing Arts graduates were the most likely to be self-employed (15%), while Education graduates were the least likely (1%). Also, respondents with occupations in Art, Culture, Recreation, and Sport were most likely to report being self-employed (24%), while no respondents in occupations unique to Processing, Manufacturing, and Utilities were self-employed.

Respondents from RRU reported the highest incidence of self-employment (11%), while those from SFU reported the lowest (5%). SFU's low rate is influenced by having the highest proportion of Education graduates, who have the lowest rate of self-employment. Respondents 55 and over (n=43) were most likely to report self-employment (18%), while those in the 20 to 24 age range were least often self-employed (4%). Finally, self-employment was more popular with males than females (8% versus 4%).

Figure 6-5: Characteristics of Employment by Gender



Note: Categories are not mutually exclusive

All employed respondents were asked whether their employer required them to have a bachelor's degree to perform their main job; approximately 55 percent said "yes." This figure is higher than the proportion who reported their job was "very related" to their education (44%), indicating that some graduates in jobs that require a baccalaureate have job duties that are not very related to their education program. Just over a third of respondents (36%) indicated that their employer did not require a baccalaureate.

Respondents with training-related jobs were much more likely to have a job that required a degree than not (65% versus 26%), while respondents with unrelated jobs were less likely to be in jobs that required a degree (29% versus 62%). It may be that

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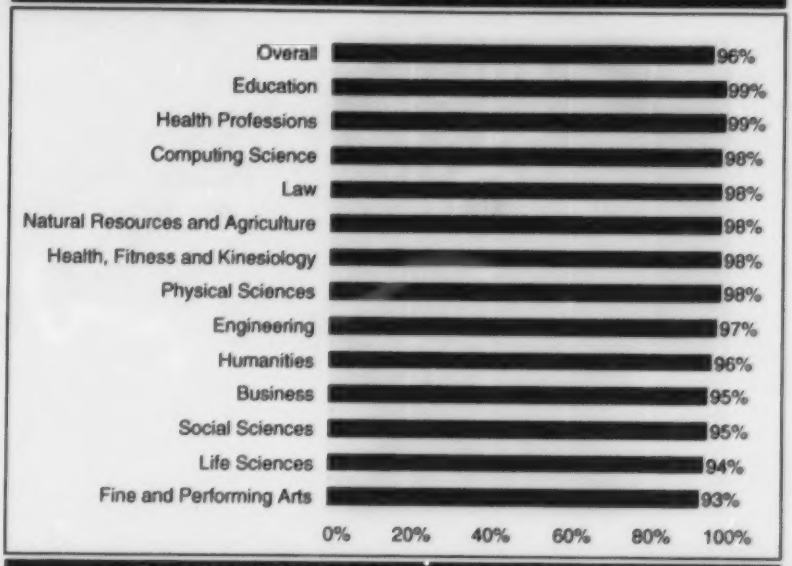

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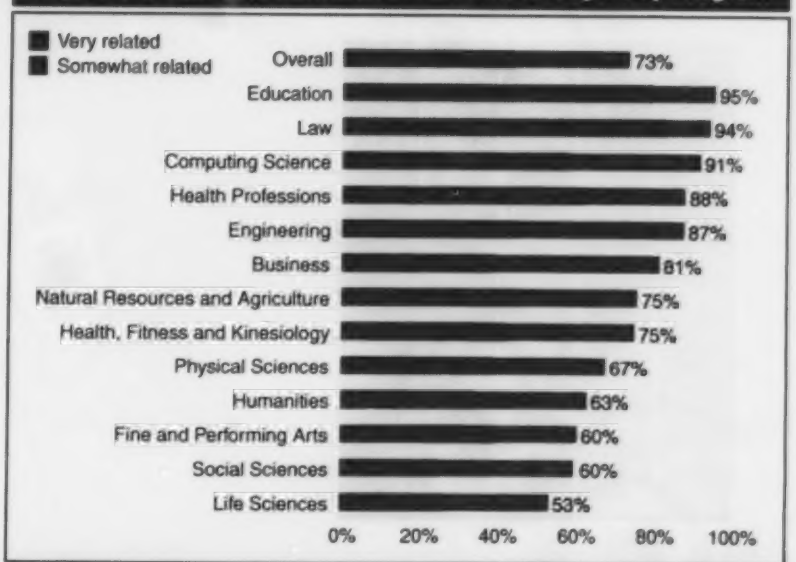

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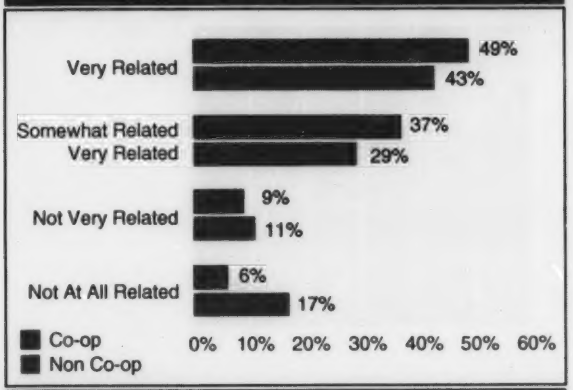


Percentage of Employed Respondents: n=5320

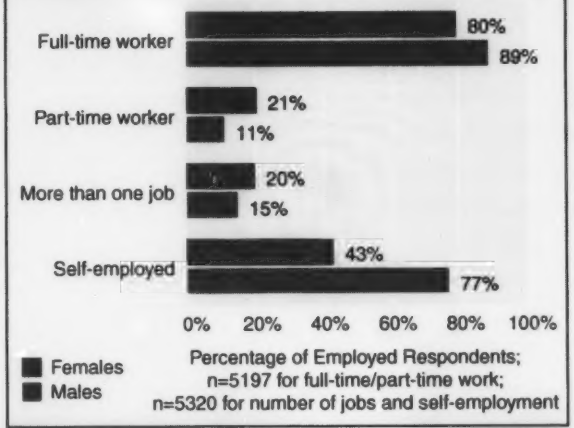
Characteristics of Employment

Figure 6-5 displays the characteristics of employment for 1998 graduates. The majority of employed respondents (83%) reported working on a full-time basis (30 or more hours per week), and 18 percent of employed respondents had more than one job. More females than males reported working part-time (20% versus 11%).

Six percent of those who were working reported being self-employed. The characteristics of self-employment do not present any surprises. For example, Fine and Performing Arts graduates were the most likely to be self-employed (15%), while Education graduates were the least likely (1%). Also, respondents with occupations in Art, Culture, Recreation, and Sport were most likely to report being self-employed (24%), while no respondents in occupations unique to Processing, Manufacturing, and Utilities were self-employed.

Respondents from RRU reported the highest incidence of self-employment (11%), while those from SFU reported the lowest (5%). SFU's low rate is influenced by having the highest proportion of Education graduates, who have the lowest rate of self-employment. Respondents 55 and over (n=43) were most likely to report self-employment (18%), while those in the 20 to 24 age range were least often self-employed (4%). Finally, self-employment was more popular with males than females (8% versus 4%).

Figure 6-5: Characteristics of Employment by Gender



Note: Categories are not mutually exclusive.

All employed respondents were asked whether their employer required them to have a bachelor's degree to perform their main job; approximately 55 percent said "yes." This figure is higher than the proportion who reported their job was "very related" to their education (44%), indicating that some graduates in jobs that require a baccalaureate have job duties that are not very related to their education program. Just over a third of respondents (36%) indicated that their employer did not require a baccalaureate.

Respondents with training-related jobs were much more likely to have a job that required a degree than not (65% versus 26%), while respondents with unrelated jobs were less likely to be in jobs that required a degree (29% versus 62%). It may be that

many of the respondents who were not able to obtain a job related to their field of study took employment where they could, including jobs where a baccalaureate degree was not required.

Occupations

Figure 6-6 displays a breakdown of respondents' occupations by skill level, as defined by the Canadian National Occupational Classification system. Skill levels are defined by the amount and type of education and training required to enter and perform the duties of an occupation. The skill levels are broad categories that reflect commonly accepted entry routes for employment. Professional occupations are those which require a university education; technical, paraprofessional, and skilled occupations are those which require college education, including apprenticeship training; intermediate occupations require high school plus some training courses or on-the-job training; and labouring and elemental occupations require up to two years of secondary school plus some on-the-job training. (See Appendix E: National Occupational Classification Matrix.)

A majority of all graduates were working in professional occupations. About one-fifth were in technical and skilled occupations, while a tiny fraction were working in labouring and elemental occupations.

Figure 6-6: Skill Level of Occupation

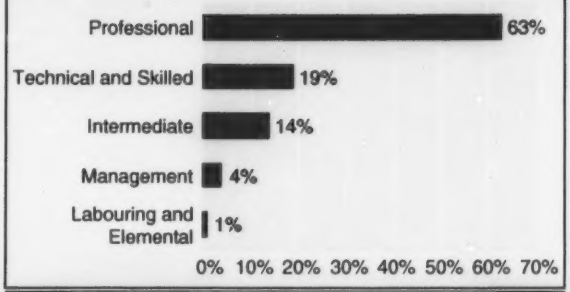
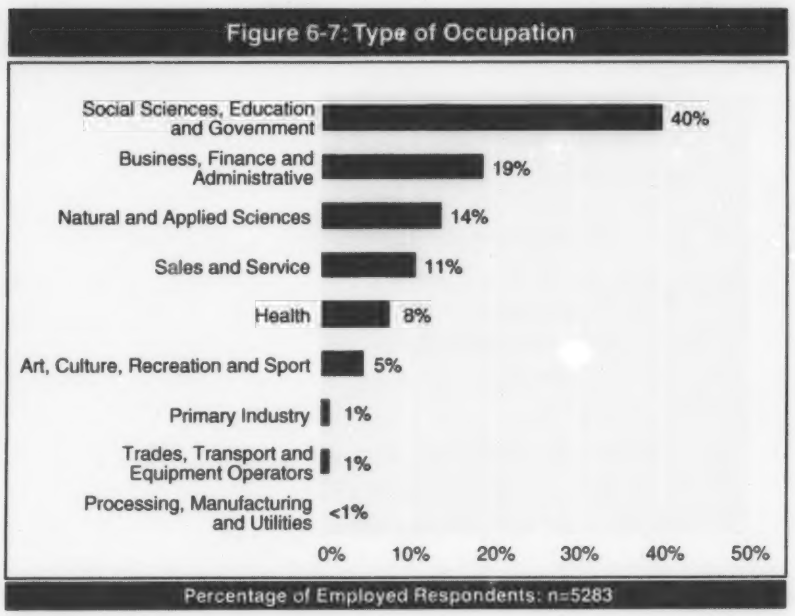


Figure 6-7 shows the percentage of respondents in each type of occupation. The highest proportion of graduates (40%) had Social Sciences, Education, or Government Service jobs; the next highest—nearly one-fifth—had jobs in Business, Finance, and Administration. Not surprisingly, very few graduates reported having occupations Unique to Primary Industry, or Trades, Transport, and Equipment or Processing, Manufacturing, and Utilities, as these types of occupations do not generally require a university degree.

Figure 6-7: Type of Occupation



There were gender differences across occupation types (Figure 6-8). Trades had the highest proportion of males (79%), while Health had the lowest (16%). Some of these gender differences, such as in Health or in Natural and Applied Sciences, can be anticipated from the distribution of gender across programs, presented in Chapter 2.

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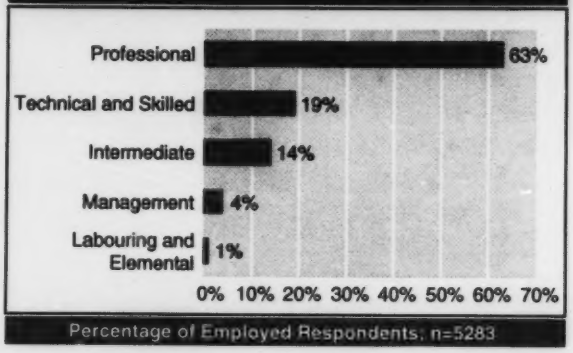

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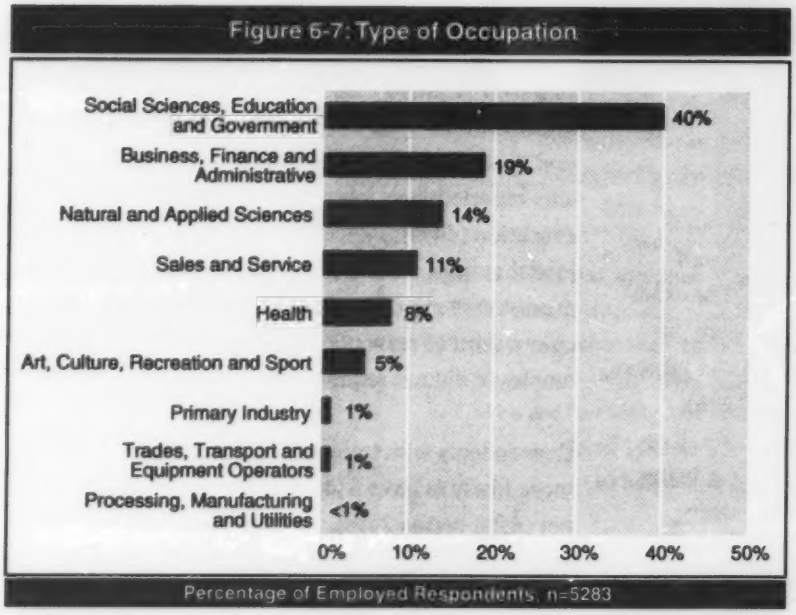

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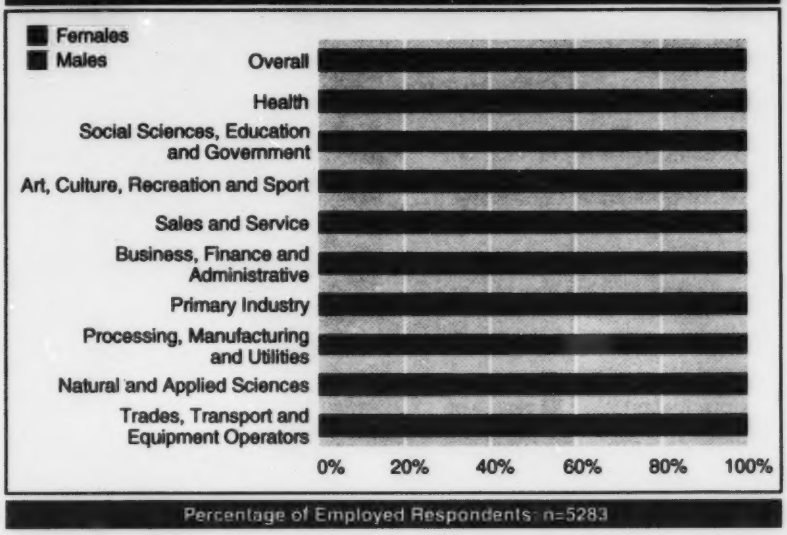
Figure 6-8 Occupation by Gender



Overall, more respondents obtained jobs that were related to their training than not (73% versus 27%). However, jobs in certain occupations were more likely to be related to graduates' program of study than others. Respondents most likely to have jobs related to their training were in Health (85%) or in Social Science, Education and Government occupations (88%). On the other hand, graduates who were employed in Sales and Service or in Trades, Transport and Equipment Operators occupations were more likely to be in jobs that were *not* related to their training (59% and 77%, respectively, compared to 27% overall).

Characteristics of Unemployed

Approximately 4 percent of respondents in the labour force were unemployed (not employed but looking). According to the national Labour Force Survey, the overall unemployment rate for BC in 2000 was 7.2 percent, while the rate for those with a bachelor's degree was 4.7 percent.[12]

The unemployment rate for graduates aged 24 and under was a little over 4 percent—for those 25 to 44, the age group of 85 percent of respondents, the rate was 3.7 percent. The rate for graduates 45 and over dropped to less than 2 percent.

Program areas with the highest proportion of unemployed respondents were Fine and Performing Arts (7%) and Life Sciences (6%). There were no differences in employment status by gender or between co-op and non co-op completers. Those who indicated they were members of a visible minority group reported a slightly higher unemployment rate than non-minorities (5% versus 3%). As well, those respondents with a long-term disability had higher unemployment rates than those without a disability (6% versus 4%).

Of the 4 percent of graduates in the labour force (n=202) who reported being unemployed, 55 were in school, 36 could not find work, 21 had lost or quit their jobs, and 18 were experiencing a temporary or seasonal layoff. Even though they said they were looking for work, 18 reported that their personal preference was to be unemployed.

Earnings

The median annual salary of graduates surveyed was $37,000 ($39,000 for those employed full-time and $18,000 for part-time employees).[13] Overall, 20 percent reported salaries of less than $26,000, while another 20 percent reported annual earnings of $50,000 or more.

12 Source: Labour Force Historical Review, 2000 (CD), Statistics Canada 71F0004XCB, Table: CDIT02AN

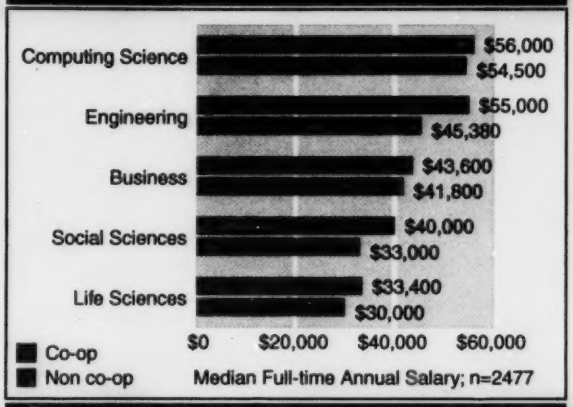
13 Graduates surveyed were asked to report their salary the way they were paid (monthly, weekly, hourly, etc.), then they were asked to confirm a calculated annual salary. Approximately 9 percent of employed respondents did not provide the information needed to calculate the amount.

The median full-time income was higher for males than females ($42,500 vs. $38,000); however, the part-time median income was higher for females ($18,000) than males ($16,130).

Median full-time annual income increased with the age of the respondent, from $37,000 for those aged 20 to 24, to $53,710 for those 55 and above.

Across program areas there was wide variation in median full-time income levels. Law graduates reported the highest median full-time income at $67,500, while Fine and Performing Arts graduates reported the lowest at $30,600. Overall, salaries were associated with job relatedness: the more training-related the job, the higher the median salary (from $33,000 for jobs that are not at all related, to $40,060 for jobs that are very related). However, this did not hold true for every program area (see Figure 6-9). The positive effect of job relatedness on salaries for graduates of Law (not related n=3), Physical Sciences; Education; and Health, Fitness, and Kinesiology is minimal or non-existent.

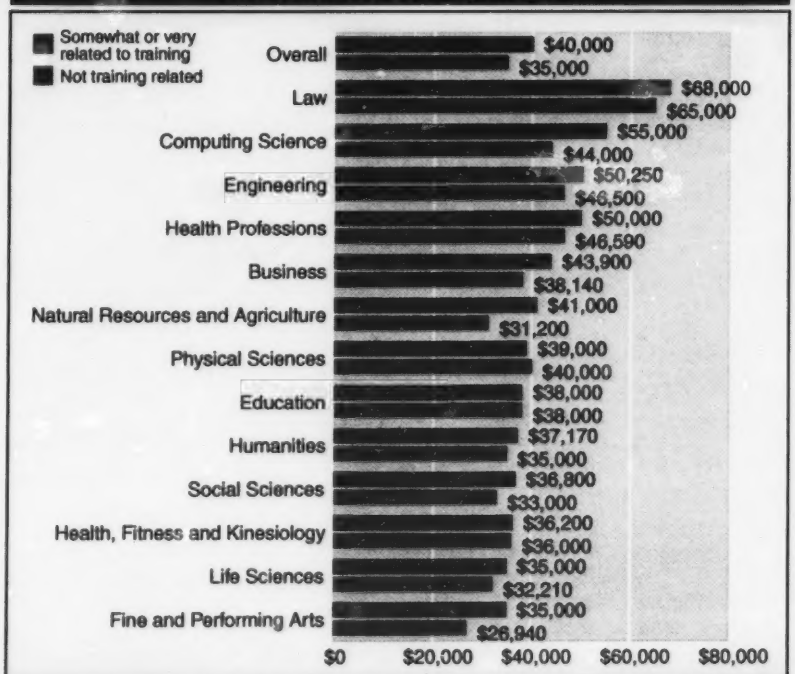
Figure 6-10: Co-op and Non Co-op Median Income by Program



Note: Programs listed have at least 30 co-op completers.

Figure 6-10 shows the median full-time salaries for co-op and non-co-op completers for the five programs where there were at least 30 respondents in each group. It appears that co-op completion offers a higher earning potential, especially for graduates from Social Sciences and Engineering programs. The higher salaries reported by co-op completers might also reflect the fact that co-op graduates are more likely than non co-op graduates to find training-related jobs.

Figure 6-9: Median Full-Time Income for Training-Related and Unrelated Jobs by Program

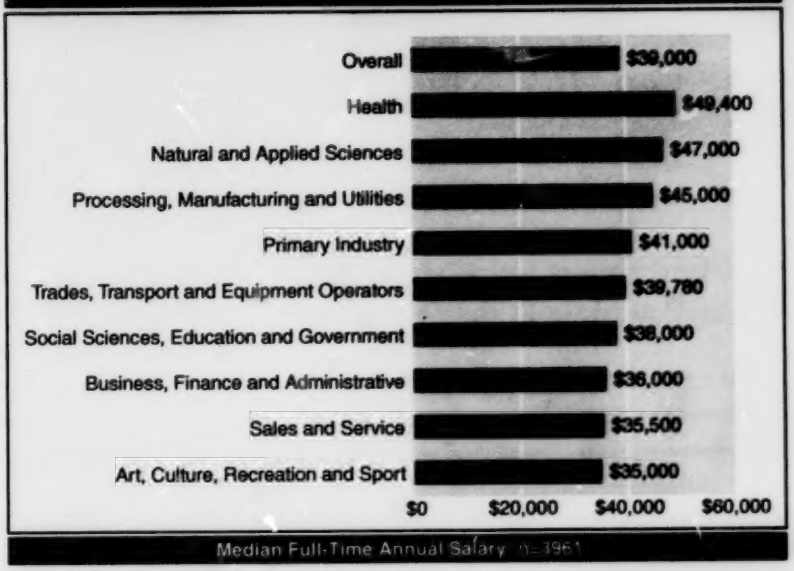


Income levels were directly related to the skill level of occupations. As expected, those respondents in management level jobs had the highest median full-time income ($43,730), while those working in labouring and elemental occupations had the lowest ($30,000). Almost two-thirds of respondents had professional occupations, which had a

median full-time income of $41,000.

Income was also related to the type of occupation (Figure 6-11). Median full-time incomes for Health and Natural and Applied Sciences occupations were the highest, whereas those for Art, Culture, Recreation, and Sport and Sales and Service occupations were the lowest.

Figure 6-11: Median Income by Occupation Type



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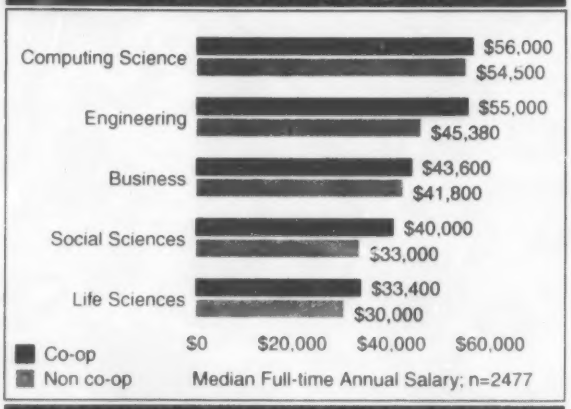

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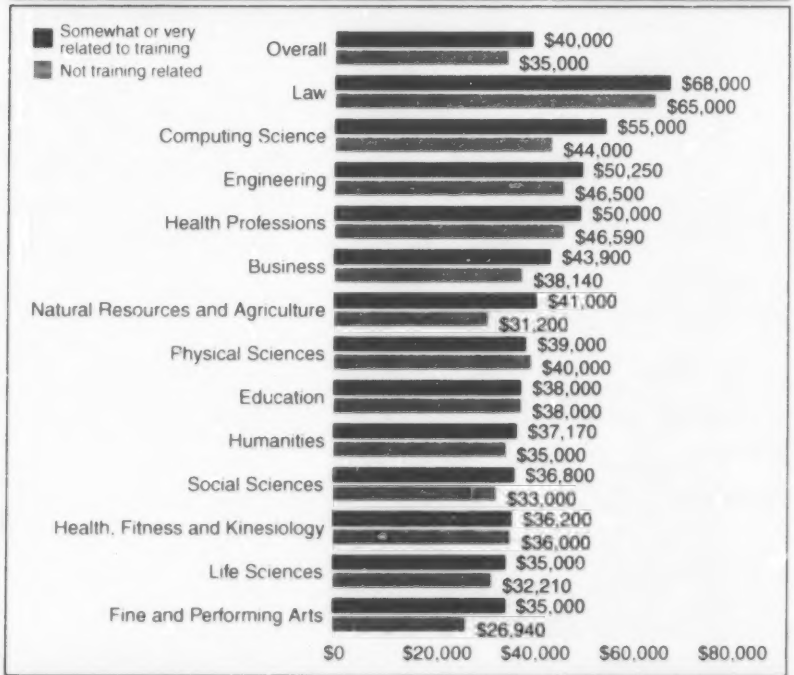

Median Full-time Annual Salary; n=3981

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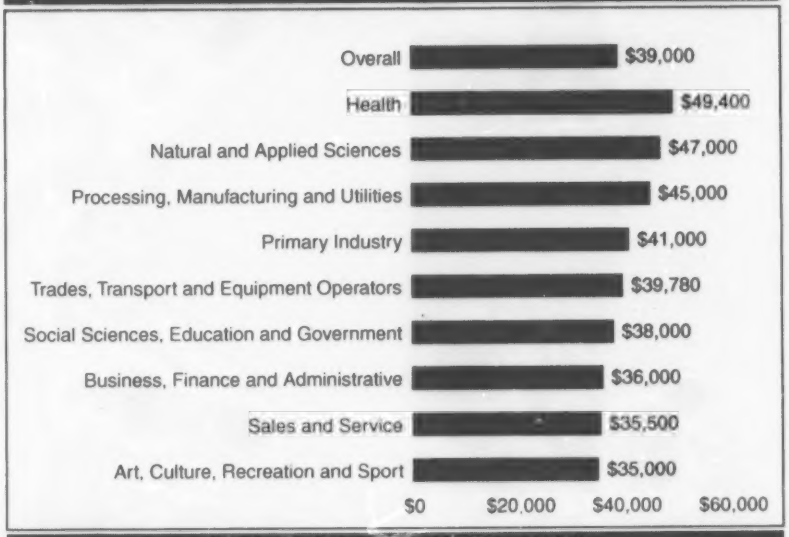


Median Full-Time Annual Salary: n=3961

7. International Perspectives

Universities in British Columbia are committed to providing a wide range of international education opportunities to help students become more comfortable with living and working in international and cross-cultural settings. The 2000 University Baccalaureate Graduate Survey incorporated a set of special questions related to internationalization that asked how much graduates use international education skills in their employment, the degree to which they were provided with international education learning opportunities while in school, and if they took advantage of opportunities to study abroad.

Overall, a majority of the graduates surveyed reported that international education skills were important for their employment and that their university had helped provide the knowledge and understanding needed to develop those skills.

However, respondents indicated there are areas of international education that could be improved. Approximately one third of graduates who reported that other language skills were important for their employment stated that university was not helpful in preparing them to speak another language. The results were similar for international business practices, especially for Law, Engineering, and Natural Resource and Agriculture graduates—a majority of whom said that university did not help them become knowledgeable about international business practices.

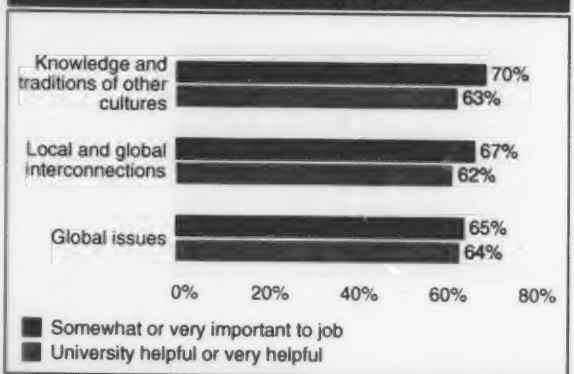
Knowledge of Global Issues and Traditions of Other Countries

Graduates were asked to report how important the following competencies were for their employment positions and to rate how helpful their university was in providing them with these competencies:

- Knowledge of global issues
- Knowledge of the interconnections between local and global issues
- Understanding of the knowledge and traditions of other cultures

Figure 7-1 presents the findings on these three issues. The majority of graduates reported that all three have been "important" for their employment positions. In each case, a majority also reported that university helped them to become knowledgeable in these different areas.

Figure 7-1: Evaluation of Knowledge of Global Issues and Other Countries



Percentage of Respondents: n=6347

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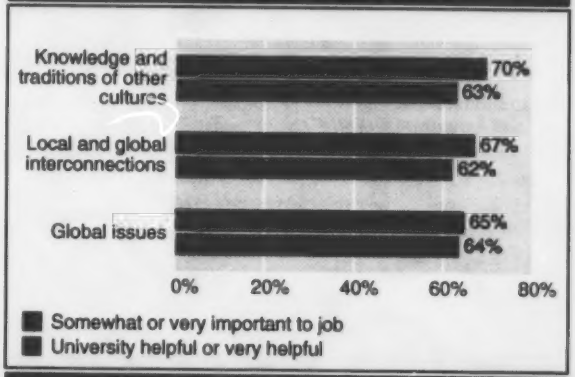


Percentage of Respondents, n=6347

In almost all program areas, well over 50 percent of respondents stated that those three knowledge areas were important for their employment and that university helped prepare them to understand those international issues.

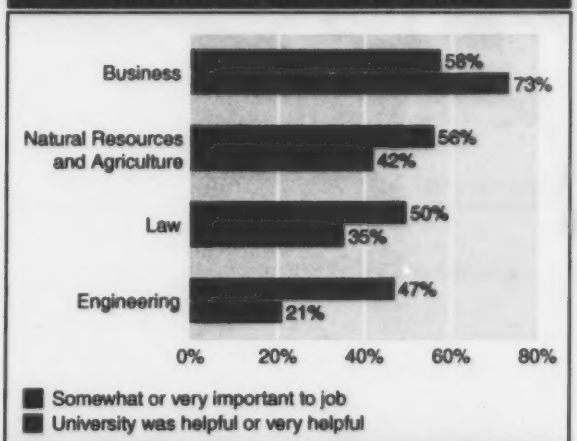
International Business Practices

Sixty-two percent of graduates reported that knowledge of international business practices was "not important" in their employment, and most graduates (71%) said that university was "not helpful" in providing them with knowledge about international business practices.

Of the 35 percent of respondents who reported that knowledge of international business practices was either "somewhat" or "very important" for their employment, 45 percent said university helped them become knowledgeable about these practices, while 53 percent stated university did not help them.

At the program level, about one-half of the graduates from Business, Natural Resources and Agriculture, Law, and Engineering reported that knowledge of international business practices was important for their employment. While a majority of Business graduates reported that university helped them gain knowledge of international business practice, a minority of graduates from each of the other three program areas reported the same.

Figure 7-2: Evaluation of the Knowledge of International Business Practices



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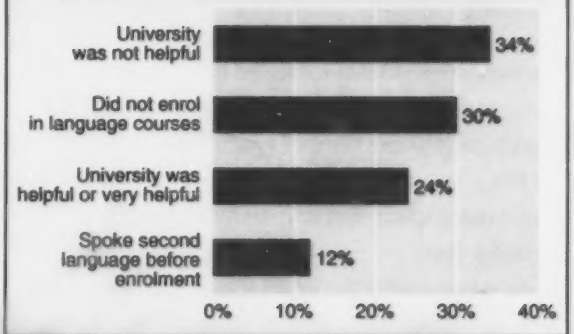
Second or Other Languages

A majority of graduates (61%) reported that second language skills were either "not very" or "not at all important" for their employment. Forty-one percent of respondents did not enroll in language courses while in university, and 7 percent already spoke a second language prior to enrolment.

Thirty-seven percent of respondents did report that speaking a second or other language was "somewhat" or "very important" to their job. Of those, 24 percent indicated that university was "helpful" or "very helpful" in preparing them to speak another language (Figure 7-3).

Figure 7-3: Evaluation of Second Language Skills



Percentage Who Reported Second Language Skills Were Important to Their Job: n=2323

The top three program areas to report that other language skills were either "somewhat" or "very important" in their employment were Humanities (47%), Education (46%), and the Health Professions

(44%). Of those respondents, more reported that their university had not helped prepare them to speak a second language than reported their university had helped them (see Table 7-1).

Table 7-1: Evaluation of Universities' Help With Language Skills for Selected Programs

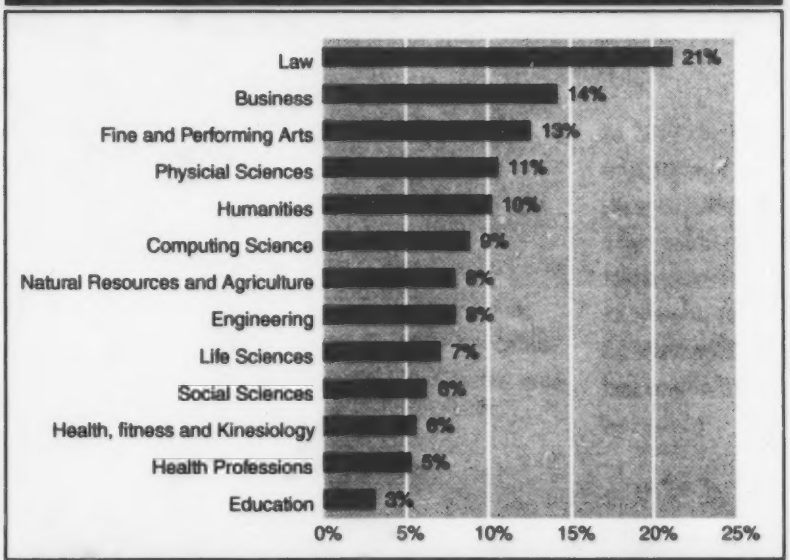
Respondents Who Said Language Skills Were Important to Their Employment

	Humanities (n=347)	Education (n=359)	Health Professions (n=182)
University was helpful	45%	18%	8%
University was not helpful	30%	34%	34%
Did not enrol in language courses	18%	36%	46%
Already spoke another language	7%	12%	13%

Work or Study Abroad

Approximately 8 percent of graduates surveyed took advantage of opportunities to study (4.5%) or work (2.5%) abroad, or both (1.0%). Of these respondents, 83 percent reported their experiences abroad provided them with knowledge and skills they could use in their employment. Graduates from Law, Business, and Fine and Performing Arts (see Figure 7-4) were more likely to have studied or worked abroad. Respondents who did not take advantage of any of opportunities to study or work abroad were asked why not. Many of them said their reasons for not participating were personal (41%); others cited lack of awareness that the opportunities existed (17%), financial reasons (16%), or because it would have lengthened their degree completion time (11%). Since graduates who were outside North America at the time of the survey were excluded, it is possible that a number of the graduates who were not surveyed were in fact working or studying abroad. These graduates may have had more international experience than those we were able to survey; however, because there is no information available on their number or status, it is impossible to assess what impact, if any, their participation would have had on survey results.

Figure 7-4: Those Who Studied or Worked Abroad by Program



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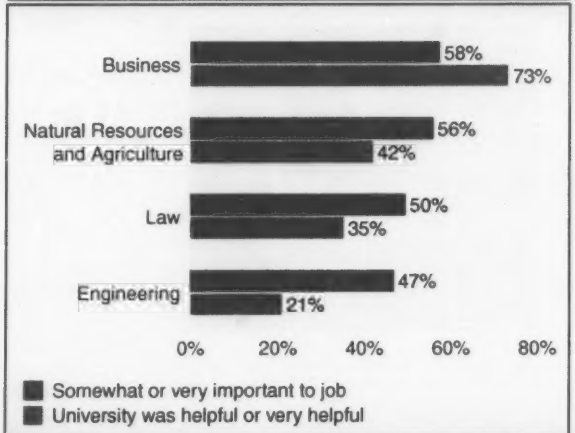

Percentage of Respondents: n=6347

Second or Other Languages

A majority of graduates (61%) reported that second language skills were either "not very" or "not at all important" for their employment. Forty-one percent of respondents did not enroll in language courses while in university, and 7 percent already spoke a second language prior to enrolment.

Thirty-seven percent of respondents did report that speaking a second or other language was "somewhat" or "very important" to their job. Of those, 24 percent indicated that university was "helpful" or "very helpful" in preparing them to speak another language (Figure 7-3).

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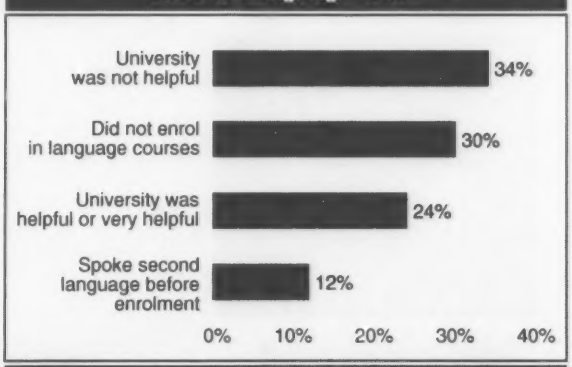

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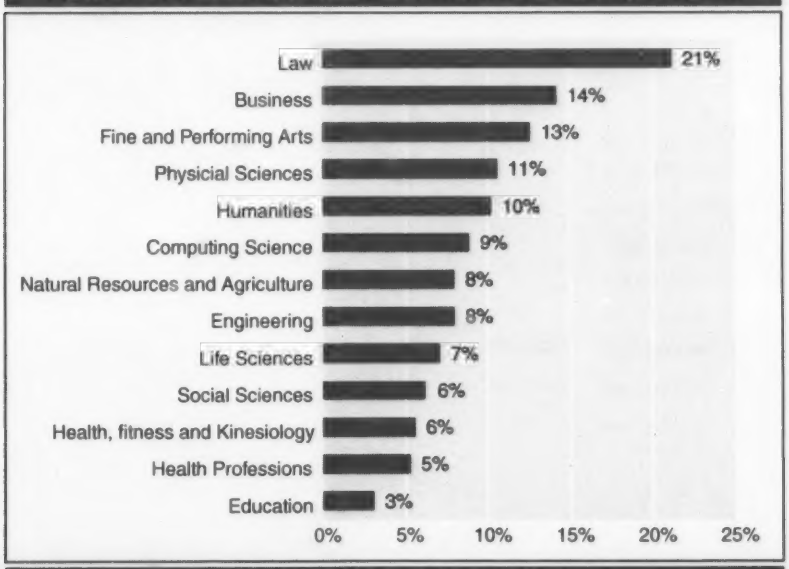
Already spoke another language	7%	12%	13%

Work or Study Abroad

Approximately 8 percent of graduates surveyed took advantage of opportunities to study (4.5%) or work (2.5%) abroad, or both (1.0%). Of these respondents, 83 percent reported their experiences abroad provided them with knowledge and skills they could use in their employment. Graduates from Law, Business, and Fine and Performing Arts (see Figure 7-4) were more likely to have studied or worked abroad. Respondents who did not take advantage of any of opportunities to study or work abroad were asked why not. Many of them said their reasons for not participating were personal (41%); others cited lack of awareness that the opportunities existed (17%), financial reasons (16%), or because it would have lengthened their degree completion time (11%). Since graduates who were outside North America at the time of the survey were excluded, it is possible that a number of the graduates who were not surveyed were in fact working or studying abroad. These graduates may have had more international experience than those we were able to survey; however, because there is no information available on their number or status, it is impossible to assess what impact, if any, their participation would have had on survey results.

Figure 7-4: Those Who Studied or Worked Abroad by Program



Percentage of Respondents: n=6347

Conclusion

This report has reviewed in detail the outcomes experienced by 1998 British Columbia baccalaureate graduates two years after graduation. The survey results reveal that the outcomes for the class of 1998 were very positive. Most graduates achieved their enrollment goals and found satisfactory employment in the labour market.

British Columbia graduate outcomes compare favorably to the outcomes experienced by graduates from other Canadian provinces. Recent baccalaureate graduate survey results from Alberta, Ontario, and the four Maritime Provinces—while conducted at different times and with different graduating classes—show that Canada-wide baccalaureate graduates experience similar, positive employment outcomes (please see Appendix F for complete details).[14]

Employment Rates

The employment rate for the BC class of 1998 baccalaureate graduates was 96 percent two years after graduation. In comparison, the employment rate for 1998 Ontario[15] graduates two years after graduation was 97 percent. In Alberta,[16] the employment rate for 1994 graduates surveyed in 1997 was 97 percent. In the Maritimes,[17] one year after graduation, the overall employment rate for 1996 baccalaureate graduates, for all four Maritime Provinces, was 85 percent.

Earnings

The average annual salary for 1998 BC graduates two years after graduation was $39,198. The average annual salary for 1998 Ontario graduates two years after graduation in was $41,100. In Alberta the average annual salary for 1994 graduates surveyed in 1997 was $37,164. In the Maritimes, yearly earnings for full-time employed 1996 baccalaureate graduates in 1997 were approximately $26,463.

Relatedness of Employment to University Education

In BC, 75 percent of 1998 graduates employed full-time considered their main job either "very" or "somewhat" related to the program they completed at university. Comparable results were found in Ontario (83%) two years after graduation, and Alberta (75%) three years after graduation.

What Next?

In 2003 the BC University Student Outcomes Project will attempt to contact the baccalaureate graduate class of 1998 once again approximately five years after graduation. Through that survey we will be able to examine transition patterns and changes in employment, further education and satisfaction, as well as learn more about the impact a university education has on the lives of those who graduated from a BC university.

14 Interpret comparisons with caution as the survey results for graduates from Alberta and the four Maritime Provinces were gathered at different times, for different graduating classes, and there are important labour market and economic climate differences among provinces.

15 http://www.cou.on.ca/publications/briefs_reports/highlights_2000-01Graduate%20Survey.pdf

16 http://www.ualberta.ca/~glowe/transition/swtrpt3.html

17 http://www.mphec.ca/htm/repnstud/survey/SurvyEng.pdf

Appendix A: Survey Instrument

Survey Introduction

IQ1: Hello, May I please speak with [fill in respondent's name] who graduated from [name of institution] in 1998?

1. Graduate available **[CONTINUE WITH INTRODUCTION]**
2. Graduate unavailable (No longer living in Canada)
3. Graduate unavailable (Other reason)
4. Left message
5. Wrong telephone number
6. Number not in service
7. Non-interview due to language problems
8. Graduate Deceased

Good morning [afternoon/evening], my name is [interviewer's name] from [name of contractor]. We are contacting 1998 BC university graduates on behalf of [the] [name of university] and the Ministry of Advanced Education, Training and Technology to conduct a survey designed to learn more about students' experiences after their university studies. While participation in the survey is voluntary, your answers are important and will be kept strictly confidential. The results will only be used for statistical purposes.

IQ2: May I do the survey with you at this time?

1. *Yes* [GO TO A1]
2. *No*
   <1> Arrange call back appointment
   <2> Refusal
   <3> Language problems

Section A: Confirmation of Survey Eligibility

A1: To confirm, did you obtain a bachelor degree in [name of program] from [name of university] in 1998?
[ALTERNATE WORDING FOR NON-BACHELOR PROGRAMS (I.E. PDP): To confirm, did you graduate from [name of program] at [name of university[in 1998?

1. Yes [GO TO B1]
2. No, wrong program [GO TO A1A]
3. No, wrong university [PROBE, THANK AND TERMINATE]
4. No, did not graduate in 1998 [PROBE, THANK AND TERMINATE]
8. Don't know [PROBE, ELSE THANK AND TERMINATE]
9. Refused [THANK AND TERMINATE]

A1A: From what program did you obtain a bachelor degree?
[RECORD FULL DEGREE NAME, I.E. BACHELOR OF EDUCATION, BACHELOR OF ARTS IN ECONOMICS]
[GO TO B1]

Section B: Reasons for Enrolling and Education Satisfaction

To begin, I am going to ask you some questions about your reasons for pursuing a university education and how satisfied you are with the education you obtained.

B1: When you first enrolled in university what was the primary or main goal that you wanted to achieve by going to university?
[INTERVIEWER IF RESPONDENT ASKS FOR CLARIFICATION THEN READ: BY PRIMARY OR MAIN GOAL WE MEAN A CLEAR AND IDENTIFIABLE AIM OR OBJECTIVE TO REACH—A SINGLE REASON MORE IMPORTANT THAN ANY OTHER REASONS YOU MAY HAVE HAD FOR GOING TO UNIVERSITY]

[RECORD ONLY ONE RESPONSE]

1. Obtain a degree [GO TO B1A]
2. Qualify for Masters or Doctoral studies
3. Find or decide on a career
4. Pursue a pre-chosen career decision/pursue a specific career
5. Change careers/pursue a new career/obtain a better job
6. Acquire skills that would lead to employment
7. Improve my existing job skills
8. Broaden knowledge in a specific field of study
9. Challenge myself intellectually
10. To fill my time with a worthwhile activity
11. To please parents/family
12. Did not have a primary or main goal that I wanted to achieve
13. Other (Specify)_____
88. Don't know
99. Refused

B1A: Why was obtaining a degree your primary goal; what were you hoping a degree would lead to next?
[RECORD MULTIPLE RESPONSES]

1. Career or job (includes: job opportunities and career in identified occupational field)
2. Masters or Doctoral studies
3. Personal satisfaction
4. Other (Specify)_____
8. Don't know
9. Refused

B2: Overall, to what extent did you achieve the primary or main goal that led you to pursue a university education? Would you say...[READ LIST]

1. Completely achieved
2. Mostly achieved
3. Partially achieved
4. Not achieved
8. Don't know
9. Refused

B3: How satisfied were you with the education you received from [name of program] at [name of university]? Would you say...

1. Very Satisfied
2. Satisfied
3. Dissatisfied
4. Very Dissatisfied
8. Don't know
9. Refused

Section C: Education Evaluation and Skill Development

The next set of questions will ask you to evaluate [name of university] programs, services and facilities and to rate how well you were able to improve certain skills through your program.

Program Evaluation

C1: Overall, how would you rate the quality of course instruction in [name of program]? Would you say the quality of instruction was...

1. Very good

2. Good
3. Poor
4. Very poor
8. Don't know
9. Refuse

C2: How good was the core program of required courses in [name of program] in terms of providing for a comprehensive or full understanding of this field of study? Would you say...

1. Very good
2. Good
3. Poor
4. Very poor
7. Not applicable; general studies respondent
8. Don't know
9. Refused

C3: Given your experiences in [name of program], would you select the same program again?

1. Yes
2. No [go to C3A]
8. Don't know
9. Refused

C3A: Please explain why you would not select the same program again. [INTERVIEWER NOTE: PLEASE ENSURE RESPONDENT UNDERSTANDS WE ARE ASKING FOR PROGRAM SPECIFIC INFORMATION AND NOT GENERAL INSTITUTIONAL INFORMATION]

[RECORD MULTIPLE RESPONSES]

1. Not enough course variety offered
2. Skills provided were not very useful
3. Courses were poorly taught
4. Program was too general/not enough specialization
5. Courses were not practical (did not reflect/apply to the "the real world")
6. Interests have changed
7. Little or no career opportunities/hard to find a job
8. Do not agree with the grading system
9. Did not like the institution
10. Other (Specify)_____
88. Don't know
99. Refused

Course Availability

C4: While you were attending [name of university] were there courses that you would like to have taken, but were unable to take because they were either: not available, not offered, always full or had restricted enrollment policies?

1. Yes [go to C4A]
2. No
8. Don't know
9. Refused

C4A: What were these courses that you were unable to take? Please give us a general description; for example, technical writing; computer programming; accounting, etc., and if there were many, please just list the top two that you would like to have taken.

C4A1: [RECORD VERBATIM]
C4A2: [RECORD VERBATIM]
99. Refused

Skill Development

The next group of questions asks you to rate your skill development. On a scale from 1 to 5 where 1 is very high and 5 is very low, please identify to what degree university helped you to develop…

This half of the list is read:

1. Very high
2. High
3. Average (meaning: skill development was not notably high or low)
4. Low
5. Very low

This half of the list is not read:

6. No skill development
7. Not applicable
8. Don't know
9. Refused

C5. Your ability to verbally express opinions or ideas clearly and concisely
C6. Your ability to write clearly and concisely
C7. Your ability to formulate original [i.e. innovative] thoughts or ideas
C8. Your ability to resolve issues or problems
C9. Your ability to compose logical arguments
C10. Your ability to use mathematical models and methods to analyze data
C11. Your ability to work collaboratively with others

Degree Completion

C12: Did it take longer to complete your degree at [name of university] than you had originally expected?

1. Yes [go to C12A]
2. No
8. Don't know
9. Refused

C12A: Why did it take longer than you expected to complete your degree?
[RECORD MULTIPLE RESPONSES]

1. Poor academic advising
2. Course transfer problems
3. Difficulty choosing courses or major degree area
4. Change of major/program/area of specialization
5. Completed requirements for more than one degree program
6. Experienced difficulty getting into required courses
7. Courses wanted were not offered at convenient/desired times, terms or semesters
8. Chose to take more courses than were required for degree program
9. Involvement in co-op program extended completion time
10. Financial reasons/had to work to pay for education
11. Studied part-time
12. Studied through distance education
13. Personal or family reasons
14. Chose to take time-off/take a break
15. Took time off to travel
16. Other: (Specify):_____
88. Don't know
99. Refused

Section D: Participation in Further Education

I would now like to ask you some questions about further education and training.

D1: Since graduation, have you taken any other education or training—including programs, courses, workshops, seminars, correspondence or tutorials?

1. Yes
2. No [SKIP TO NEXT SECTION]
8. Don't know [SKIP TO NEXT SECTION]
9. Refused [SKIP TO NEXT SECTION]

D2: Are you currently enrolled in any further education or training?

1. Yes
2. No [GO TO D4]
8. Don't know [GO TO D4]
9. Refused [GO TO D4]

D3: Are you currently enrolled full-time or part-time?

1. Full-time
2. Part-time
8. Don't know
9. Refused

D4: Where did you take, or are you taking, your further education or training?
[RECORD MULTIPLE RESPONSES]

1. University
2. College, university college or institute
3. Private training school/firm
4. Professional Association
5. Correspondence School
6. Private tutoring
7. Other [Specify]_____
88. Don't know
99. Refused

D5: What was the primary or main reason why you enrolled in further education or training?
[INTERVIEWER IF RESPONDENT ASKS FOR CLARIFICATION THEN READ: BY PRIMARY OR MAIN GOAL WE MEAN A CLEAR AND IDENTIFIABLE AIM OR OBJECTIVE TO REACH; A SINGLE REASON MORE IMPORTANT THAN OTHER REASONS]
[RECORD ONLY ONE RESPONSE]

1. Obtain a degree
2. Went back to university to complete my degree
3. Qualify for Masters or Doctoral studies
4. Find or decide on a career
5. Pursue a pre-chosen career decision/pursue a specific career
6. Change careers/pursue a new career/obtain a better job
7. Acquire skills that would lead to employment
8. Improve my existing job skills
9. Broaden knowledge in a specific field of study
10. Challenge myself intellectually
11. To fill my time with a worthwhile activity
12. To please parents/family
13. Did not have a primary or main goal that I wanted to achieve
95. Other [Specify]_____
88. Don't Know

99. Refused

Section E: Labour Market Participation

I would now like to ask you some employment-related questions

E1: Are you Currently working at a job or a business?

1. Yes [GO TO E2]
2. No [GO TO E16]
8. Don't know [GO TO NEXT SECTION]
9. Refused [GO TO NEXT SECTION]

Employed Questions E1=Yes

E2: Are you a paid worker or are you self-employed?

1. Paid worker
2. Self-employed
3. Both a paid worker and self-employed
8. Don't know
9. Refused

E3: Are you currently employed at more than one job or business?

1. Yes [GO TO E4]
2. No [GO TO E5]
8. Don't know [GO TO E5]
9. Refused [GO TO E5]

E4: How many jobs do you currently have?
NUMBER OF JOBS: _____
88. Don't know
99. Refused

***E5 Introduction**: The next set of questions relates to your main job or business, that is, the job or business at which you normally work the most hours. [Interviewer Note (read if necessary): The answers provided here will be used to help universities better understand the kind of occupations and the kinds of industries in which graduates find employment. Again, the information you provide will be treated as strictly confidential and please be assured that your employer will not be contacted.]*

E5: What is your job title?

88. Don't know
99. Refused

[INTERVIEWER NOTE: QUESTION REFERS TO MAIN JOB ONLY. OBTAIN FULLY DETAILED DESCRIPTION: ELEMENTARY SCHOOL TEACHER, HIGH SCHOOL TEACHER, SOCIAL SCIENCE RESEARCH ANALYST, ENGINEERING RESEARCH ANALYST...].

E6: What are your main duties?

88. Don't know
99. Refused

[INTERVIEWER NOTE: QUESTION REFERS TO MAIN JOB ONLY. OBTAIN FULLY DETAILED DESCRIPTION OF MAIN DUTIES PERFORMED.]

E7: What is the name of the business where you work?

88. Don't know
99. Refused

[INTERVIEWER NOTE: RECORD FULL NAME OF BUSINESS, GOVERNMENT DEPARTMENT, OR AGENCY]

E8: What kind of business, industry or service is this? (E.g. retail shoe business, aerospace industry, forestry or health services.)
[INTERVIEWER NOTE: RECORD FULL DETAIL OF THE KIND OF BUSINESS, INDUSTRY OR THE SERVICE, AND WHETHER OR NOT IT IS A PUBLIC OR PRIVATE SECTOR BUSINESS]

88. Don't know
99. Refused

E9: Is a university education required to perform the duties of your main job?
[NOTE: AT SFU'S REQUEST, QUESTION E9 WAS REPLACED WITH QUESTION E9A AFTER THE PRE-TEST]

E9A: Does your employer require you to have a bachelor degree to perform your main job?
[NOTE: 249 RESPONDENTS ANSWERED QUESTION E9]

1. Yes
2. No
7. Not applicable: self-employed
8. Don't know
9. Refused

E10: How related is your main job to the program you graduated from at [name of university]? Would you say...

1. Very Related
2. Somewhat Related
3. Not very Related
4. Not at all Related

Do not read:

8. Don't know
9. Refused

E11: How many hours a week do you usually work at your main job? *[Interviewer note: Statistics Canada considers 30 Hours or more full-time employment.]*

HOURS: _____
RANGE - MINIMUM: 0.00
RANGE - MAXIMUM: 99.90

888. Don't know
999. No response

INTERVIEWER REFERENCE NOTE
For a 5-day work week:
- 6.5 paid hours/day = 32.5 hours
- 7.0 paid hours/day = 35 hours
- 7.5 paid hours/day = 37.5 hours
- 8.0 paid hours/day = 40 hours

***E12 Introduction**: The next group of questions asks about income. This information will be used to determine how much, on average, university graduates earn two years after completing their studies.*

E12. Which of the following is the best way for you to report the earnings from your main job?...
[INTERVIEWER: READ LIST AND SELECT JUST ONE RESPONSE]

1. Hourly
2. Daily [GO TO E12A]
3. Weekly
4. Bi-Weekly
5. Monthly
6. Yearly
7. Other (Specify):_____
8. Don't know what earnings are [GO TO NEXT SECTION]
9. Refused to report earnings [GO TO NEXT SECTION]

E12A. How many paid hours do you usually work each week?

HOURS: _____
8. Don't know
9. Refused

E13: Working your usual hours, how much do you earn [Category from E12] at your main job, before deductions not including tips or commissions?

$_____
RANGE - MINIMUM: $0.00
RANGE - MAXIMUM: $999999.99
88. Don't know [IF E12 = 1-5, GO TO E15A AND RECORD ANNUAL SALARY; OTHERWISE CHANGE E12 TO DON'T KNOW]

E14: Approximately how much do you earn in commissions or tips yearly before deductions?
[INTERVIEWER NOTE: IF NOT APPLICABLE, THEN ZERO]

$_____ YEARLY ESTIMATE ONLY
RANGE - MINIMUM: $0.00
RANGE - MAXIMUM: $999999.99
88. Don't know 99. Refused

E15: Based on what you have told me, your total annual income from your main job before deductions has been calculated to be $_____, does that sound about right?

1. Yes [GO TO NEXT SECTION
2. No [GO TO E15A]
8. Don't know/unsure [GO TO NEXT SECTION]
9. Refused [GO TO NEXT SECTION]

E15A: What is your total annual income from your main job before deductions, not including tips and commissions?

$_____
RANGE - MINIMUM: $0.00
RANGE - MAXIMUM: $999999.99
88. Don't know 99. Refused

Unemployed Questions E1=No

E16: What is the main reason why you are currently not employed?

1. Permanently unable to work (illness or disability) [GO TO NEXT SECTION]
2. Temporary or Seasonal layoff
3. Casual part-time worker
4. Lost or quit job
5. Business conditions (cannot find work/lack of suitable opportunities)
6. Going to school full-time
7. Caring for children full-time
8. Going to school part-time
9. Other personal or family responsibilities
10. Personal preference
11. Retired
12. On a leave of absence from job
13. Lack the skills for the job that I want
14. Other [Specify:]

88. Don't know/unsure
99. Refused

E17: Have you actively looked for a job in the past four weeks?

1. Yes
2. No

8. Don't know
9. Refused

E18: Do you have a paid job lined up to start within the next week?

1. Yes
2. No

8. Don't know
9. Refused

Section F: Education Financing

The next set of questions deals with the issue of education financing.

F1: Students pay for their education in many different ways. Can you please identify, **in order of importance**, the top two sources of funding that you relied on to help pay for the educational program you completed in 1998.

F1S1:_____
F1S2:_____

1. Personal Savings
2. Employment
3. Family/Friends
4. Bank Loans
5. Student Loans
6. Scholarships/Bursaries/Grants
7. Tax returns
8. Other (Specify)_____

88. Don't know
99. Refused

F1A: Approximately how much, in percentage terms, did each of these top two sources of funding help to cover the costs of your education? [INTERVIEWER: LEAVE BLANK IF DON'T KNOW OR REFUSED]

F1ASP1:_____
F1ASP2:_____
F1ASPR:_____ [REMAINING % IF ANY]

F2: How much financial debt did you incur to pay for the educational program that you completed in 1998 at [name of university]?

1. RECORD VALUE ($0.00 - $999999)
888888. Don't know
999999. Refused

F3: Approximately how much government sponsored student loan debt—the amount remaining after loan remission—did you incur to pay for the educational program that you completed in 1998?

1. RECORD VALUE ($0.00 - $999999) [IF ZERO THEN GO TO NEXT SECTION]
888888. Don't know [GO TO NEXT SECTION]
999999. Refused [GO TO NEXT SECTION]

F4: Approximately, how much of your student loan do you still have left to repay?

1. RECORD VALUE ($0.00 - $999999)
888888. Don't know
999999. Refused

If F4=0.00, then loan has been paid off, no debt remains.

Section H: Special Questions on International Education

Universities in BC are interested in preparing graduates who are capable citizens and professionals of an increasingly integrated global society, and so this next set of questions relates to international Education.

H1: In any of your employment positions since graduation, how important has it been to…:

1. Very important
2. Somewhat important
3. Not very important
4. Not at all important
5. Not applicable because respondent has not had any employment experiences
8. Don't know
9. Refused

H1A: speak a second language
H1B: be knowledgeable about international business practices
H1C: be knowledgeable about global issues (e.g. poverty, population growth, global warming)
H1D: understand the interconnections between local and global issues
H1E: understand the knowledge and traditions of other countries and cultures

H2: Using the following scale: very helpful, helpful, not very helpful, not at all helpful, please rate how helpful [name of university] was in terms of preparing you to…:

1. Very helpful
2. Helpful
3. Not very helpful
4. Not at all helpful
5. Not applicable: respondent did not enroll in language course(s)
6. Not applicable: respondent spoke a second or other language prior to enrolling
8. Don't know
9. Refused

H2A: speak a second or other language
H2B: be knowledgeable about international business practices
H2C: be knowledgeable about global issues
H2D: understand the interconnections between local and global issues
H2E: understand the knowledge and traditions of other countries and cultures

H3: While attending [name of university] did you take advantage of any opportunities to either study (i.e. take courses in another country) or work abroad?

1. Yes, study abroad [go to H3A]
2. Yes, work abroad [go to H3A]
3. Yes, both study and work abroad [go to H3A]
4. No [go to H3B]
5. Not applicable: Respondent was an International Student
8. Don't know [go to H4]
9. Refused [go to H4]

H3A: How useful were your study or work abroad experiences in providing you with knowledge and skills that you could use in your job?

1. Very useful
2. Somewhat useful
3. Not very useful
4. Not at all useful
5. Not applicable, because respondent has not had job since graduation
8. Don't know
9. Refused

H3B: Why did you not take advantage of study or work abroad opportunities?

1. Were not aware that these opportunities exist
2. Financial reasons
3. Extended degree completion time
4. Personal reasons (i.e. employment or family responsibilities)
5. Other (specify):_____
8. Don't know
9. Refused

Section G: Demographic and Equity

The last set of questions asks for some demographic information.

G1: While you were in university, and to this day, do you have a long-term physical or mental health condition that limits the kind of activity that you can perform on a daily basis?

1. Yes
2. No [GO TO G2]
8. Don't know [GO TO G2]
9. Refuse [GO TO G2]

G2: Are you an aboriginal person? An aboriginal person is someone of native descent; that is, an individual who is either Inuit, Metis, or North Amerian Indian—either status or non-status.

1. Yes
2. No
8. Don't know
9. Refused

G3: Are you part of a visible minority group in Canada? Some visible minority groups in Canada include individuals of African descent, East Asian [China, Japan, Korea], Southeast Asian [Thailand, Vietnam, Cambodia], Indo-Pakistani, or Middle Eastern.

3. Yes
4. No
8. Don't know
9. Refused

G4: To confirm our records, is [date of birth] your correct date of birth?

1. Yes
2. No [GO TO G4A]

8. Don't know
9. Refused

G4A: What is your correct date of birth?
[ENTER BIRTH DATE – MM-DD-YY]
88-88-88. Don't know
99-99-99. Refused

G5: To confirm for our records, is the following address information that we have for you correct?
[READ ADDRESS INFORMATION]
1. Yes, address information is correct
2. No [GO TO G5A]
8. Don't know
9. No Response

G5A: What is your correct address?
Street Address_____
City_____
Province_____
Postal Code_____

G5B: May I confirm your phone number? [SELECT FROM LIST. SURVEYOR NOTE: IF THE PHONE NUMBER YOU REACHED THE RESPONDENT AT IS LISTED HERE, PLEASE ONLY READ OUT THAT PHONE NUMBER.]
1. Ph 1 (mail_tel)
2. Ph 2
3. Ph 3 (perm_tel)
4. Ph 4
5. Ph 5 (cont_tel)
6. Ph 6
7. Ph 7
8. Another phone number (Specify:) _____
9. Refused

G6: In three years time, we may wish to contact you to do another follow-up survey (a five-year university graduate student outcomes survey of 1998 graduates). Would you be able to give us the name and phone number of someone close to you that we can contact if we are unable to reach you because you have moved? You can assure the contact person that we will only phone them if we are unable to reach you personally.
1. Yes [COLLECT CONTACT INFORMATION]
2. No, unable or unwilling to provide alternative contact information

G7: The Alumni Association at [name of university] would like to be able to contact former graduates to provide them with information about activities and special events occurring at the university. Do we have your permission to pass your address information on to the Alumni Association?
1. Yes
2. No
8. Don't know
9. Refused

This concludes the questions. Thank you very much for taking the time to go through the survey with me today.

[Only read if respondent asks: If you would like to learn more about the BC University Graduates Outcomes Survey, and how the result are used, the University Presidents' Council web site can provide you with more information. The web site address is: www.tupc.bc.ca.]

Appendix B: Distribution of Respondent and Cohort Groups

A complete breakdown of the respondents by institution and program area is provided in Table B-1. The distribution of the valid cohort by program area and institution is provided in Table B-2. Table B-3 provides this information for the respondent group.

Table B-1: Number of Respondents by Program Area and Institution

Program Area	UBC	SFU	UVic	UNBC	RRU	All
Business	211	179	120	37	62	609
Computing Science	76	47	40	6		169
Education	282	329	175			786
Engineering	195	28	52			275
Fine and Performing Arts	120	31	112			263
Health Professions	243		163	7		413
Health, Fitness and Kinesiology	106	54	36			196
Humanities	229	329	169	17		744
Law	87		66			153
Life Sciences	339	99	146	11		595
Natural Resources and Agriculture	125	3		44	28	200
Physical Sciences	95	36	41	7		179
Social Sciences	533	642	518	72		1,765
All	**2,641**	**1,777**	**1,638**	**201**	**90**	**6,347**

Empty cells indicate that there were no graduates in the valid cohort

Table B-2: Distribution by Program Area and Institution for Valid Cohort

Program Area	UBC	SFU	UVic	UNBC	RRU	All
Business	3.5%	2.7%	1.9%	0.6%	0.9%	9.5%
Computing Science	1.2%	0.8%	0.6%	0.1%		2.7%
Education	4.6%	4.8%	2.5%			11.9%
Engineering	3.5%	0.4%	0.8%			4.7%
Fine and Performing Arts	1.8%	0.5%	1.7%			3.9%
Health Professions	3.8%		2.4%	0.1%		6.3%
Health, Fitness and Kinesiology	1.5%	0.8%	0.6%			3.0%
Humanities	4.1%	4.7%	2.7%	0.3%		11.8%
Law	1.5%		1.2%			2.7%
Life Sciences	5.5%	1.5%	2.2%	0.2%		9.3%
Natural Resources and Agriculture	2.0%			0.7%	0.4%	3.1%
Physical Sciences	1.7%	0.5%	0.7%	0.1%		3.1%
Social Sciences	9.3%	9.7%	8.0%	1.1%		28.1%
All	**44.0%**	**26.4%**	**25.3%**	**3.0%**	**1.3%**	**100.0%**

Table B-3: Distribution by Program Area and Institution for Respondent Group

Program Area	UBC	SFU	UVic	UNBC	RRU	All
Business	3.3%	2.8%	1.9%	0.6%	1.0%	9.6%
Computing Science	1.2%	0.7%	0.6%	0.1%		2.7%
Education	4.4%	5.2%	2.8%			12.4%
Engineering	3.1%	0.4%	0.8%			4.3%
Fine and Performing Arts	1.9%	0.5%	1.8%			4.1%
Health Professions	3.8%		2.6%	0.1%		6.5%
Health, Fitness and Kinesiology	1.7%	0.9%	0.6%			3.1%
Humanities	3.6%	5.2%	2.7%	0.3%		11.7%
Law	1.4%		1.0%			2.4%
Life Sciences	5.3%	1.6%	2.3%	0.2%		9.4%
Natural Resources and Agriculture	2.0%			0.7%	0.4%	3.2%
Physical Sciences	1.5%	0.6%	0.6%	0.1%		2.8%
Social Sciences	8.4%	10.1%	8.2%	1.1%		27.8%
All	**41.6%**	**28.0%**	**25.8%**	**3.2%**	**1.4%**	**100.0%**

Appendix C: Classification of Instructional Programs (CIP) and Survey Respondents

The Classification of Instructional Programs (CIP) provides a comprehensive and detailed standard for reporting graduate outcomes by program area. This classification system has been adopted by Statistics Canada and many other government reporting agencies in the United States.

The CIP coding scheme is organized on three levels: 2-digit series, 4-digit series, and 6-digit program code. The 2-digit series is a logical grouping of related programs. The 4-digit series is an intermediate aggregation of programs with comparable program content and objectives. The 6-digit program code is the most detailed program classification within the classification system and represents a single instructional program.

Example:
The 6-digit CIP code for Biochemistry is 26.0202.
The 4-digit intermediate aggregation is Biochemistry, Biophysics and Molecular Biology (26.02).
The 2-digit logical grouping is Biological and Biomedical Sciences (26).

Since 1995, B.C. university graduate survey results have been classified into one of eight different program areas, independent of the CIP coding structure. These program areas included Arts, Applied Sciences, Business, Education, Fine and Performing Arts, Health, Science, and Social Professions. Starting with the 2000 survey results, the University Student Outcomes Project has classified the respondents according to the CIP coding scheme. However, the 2-digit logical groupings have been further aggregated into logical grouping (Program Classification) to reduce the total number of program areas and to increase the number of respondents in any one program area for reporting purposes. Of the fifteen Program Classifications created, thirteen are reported. Table 1 describes the aggregation of 2-digit CIP's into the fifteen USOP Program Classifications.

Table 1: USOP Program Classification Scheme
Derived from an Aggregation of 2-Digit CIP's

USOP Program Classification	Description	2-digit CIP
Business	Marketing Operations/Marketing and Distribution	08
	Business Management and Administrative Services	52
Computing Science	Computer and Information Sciences	11
Education	Education	13
Engineering	Engineering	14
Fine and Performing Arts	Visual and Performing Arts	50
Health Professions	Health Professions and Related Sciences	51
Health, Fitness and Kinesiology	Parks, Recreation, Leisure and Fitness Studies	31
Humanities	Area, Ethnic and Cultural Studies	05
	Foreign Languages and Literatures	16
	English Language and Literature/Letters	23
	Liberal Arts and Studies, General Sciences and Humanities	24
	Philosophy and Religion	38
Law	Law and Legal Studies	22
Life Sciences	Biological Science/Life Sciences	26
Natural Resources and Agriculture	Agricultural Sciences	02
	Conservation and Renewable Natural Resources	03

Table 1: USOP Program Classification Scheme, continued

USOP Program Classification	Description	2-digit CIP
Physical Sciences	Mathematics	27
	Physical Sciences	40
Social Sciences	Communication	09
	Home Economics, General	19
	Psychology	42
	Public Administration and Services	44
	Social Sciences and History	45
Architecture	Architecture and Related Programs	04
Inter-disciplinary Studies	Multi/Interdisciplinary Studies	30

Notes: a) Architecture and Inter-disciplinary Studies programs are not reported.

The above aggregation of CIP's for derivation of the USOP Program Classification only includes programs from which graduates of the 1998 class are represented. This aggregation is subject to change in future surveys as the composition of graduates by program area expands or changes.

The number of survey respondents by Program Classification and by University is displayed in Table 2.

Table 2: Number of Survey Respondents

	Respondents					
Program Classification	UBC	SFU	UVic	UNBC	RRU	BC System
Business	211	179	120	37	62	609
Computing Science	76	47	40	*6*		169
Education	282	329	175			786
Engineering	195	28	52			275
Fine & Performing Arts	120	31	112			263
Health Professions	243		163	7		413
Health, Fitness & Kinesiology	106	54	36	*0*		196
Humanities	229	329	169	17		744
Law	87		66			153
Life Sciences	339	99	146	11		595
Natural Resources and Agriculture	125	*3*	*0*	44	28	200
Physical Sciences	95	36	41	7		179
Social Sciences	533	642	518	72		1,765
Architecture	*6*					*6*
Inter-disciplinary Studies	*4*					*4*
Grand Total	**2,651**	**1,777**	**1,638**	**201**	**90**	**6,357**

Notes:

a) UBC's Architecture and Inter-disciplinary Studies programs are excluded.

b) Cells in italics represent smaller programs with insufficient response data to report (n < 7).

c) Excluded programs are included in their respective university totals and the BC System total.

The following pages detail, by university, the way in which individual programs were rolled up into program areas for reporting purposes.

University of British Columbia

1. Fine and Performing Arts

includes the following program(s):

BACHELOR OF ARTS - ARTS HISTORY
BACHELOR OF ARTS - FILM & TV STUDIES
BACHELOR OF ARTS - MUSIC
BACHELOR OF ARTS - STUDIO ARTS
BACHELOR OF ARTS - THEATRE
BACHELOR OF FINE ARTS - FINE ARTS
BACHELOR OF FINE ARTS - NO MAJOR
BACHELOR OF FINE ARTS - THEATRE
BACHELOR OF MUSIC - COMPOSITION
BACHELOR OF MUSIC - GENERAL MUSIC
BACHELOR OF MUSIC - GENR STUD MUS 2ND ED
BACHELOR OF MUSIC - GENR STUD MUS ELEM E
BACHELOR OF MUSIC - GUITAR
BACHELOR OF MUSIC - MUSIC THEORY
BACHELOR OF MUSIC - OPERA
BACHELOR OF MUSIC - ORCHESTRAL INSTR
BACHELOR OF MUSIC - PIANO
BACHELOR OF MUSIC - VOICE

2. Computing Science

includes the following program(s):

BACHELOR OF SCIENCE - COMPUTER SCIENCE

3. Engineering

includes the following program(s):

BACHELOR OF APPLIED SCIENCE - BIORESOURCE ENGRING
BACHELOR OF APPLIED SCIENCE - CHEMICAL ENGR
BACHELOR OF APPLIED SCIENCE - CIVIL ENGINEERING
BACHELOR OF APPLIED SCIENCE - ELECTRICAL ENGINEERING
BACHELOR OF APPLIED SCIENCE - ENG PHYSICS
BACHELOR OF APPLIED SCIENCE - GEOLOGICAL ENGINEERING
BACHELOR OF APPLIED SCIENCE - MECHANICAL ENGINRING
BACHELOR OF APPLIED SCIENCE - MET & MAT ENGINEER
BACHELOR OF APPLIED SCIENCE - MINING&MINERAL PRENG

4. Education

includes the following program(s):

BACHELOR OF EDUCATION

5. Law

includes the following program(s):

BACHELOR OF LAWS - NO MAJOR

6. Health Professions

includes the following program(s):

BACHELOR OF ARTS - SPEECH SCIENCE
BACHELOR OF DENTAL SCIENCE - NO MAJOR
BACHELOR OF MEDICAL LAB SCIENCE - NO MAJOR
BACHELOR OF SCIENCE - OCCUPATIONAL THERAPY
BACHELOR OF SCIENCE - PHARMACY
BACHELOR OF SCIENCE - PHYSICAL THERAPY
BACHELOR OF SCIENCE IN NURSING

7. Health, Fitness and Kinesiology

includes the following program(s):

BACHELOR OF HUMAN KINETICS

8. Business

includes the following program(s):

BACHELOR OF COMMERCE - ACCOUNTING
BACHELOR OF COMMERCE - COMMERCE AND ECONOMICS
BACHELOR OF COMMERCE - FINANCE
BACHELOR OF COMMERCE - GENERAL BUSINESS MGM
BACHELOR OF COMMERCE - INDUSTRIAL RELATIONS
BACHELOR OF COMMERCE - INTERNATIONAL BUSINE
BACHELOR OF COMMERCE - MANAGMT INFO SYSTEMS
BACHELOR OF COMMERCE - MARKETING
BACHELOR OF COMMERCE - NO MAJOR
BACHELOR OF COMMERCE - TRANSPORT & LOGICSTC
BACHELOR OF COMMERCE - URBAN LAND ECONOMY

9. Natural Resources and Agriculture

includes the following program(s):

BACHELOR OF ARTS - ENVIRONMENTAL
BACHELOR OF SCIENCE - AGRICULTURE
BACHELOR OF SCIENCE - ENVIRONMENTAL SCIENCE
BACHELOR OF SCIENCE - FORESTRY
BACHELOR OF SCIENCE - NATURAL RES CONS
BACHELOR OF SCIENCE IN FORESTRY - FOREST OPERATIONS
BACHELOR OF SCIENCE IN FORESTRY - FOREST RESRCS MGMT
BACHELOR OF SCIENCE IN FORESTRY - NO MAJOR

10. Social Sciences

includes the following program(s):

BACHELOR OF ARTS - ANTHROPOLOGY
BACHELOR OF ARTS - ECONOMICS
BACHELOR OF ARTS - FAMILY SCIENCE
BACHELOR OF ARTS - GEOGRAPHY
BACHELOR OF ARTS - HISTORY
BACHELOR OF ARTS - INTERNATIONAL RELTNS
BACHELOR OF ARTS - POLISCI-INTRNTL REL
BACHELOR OF ARTS - POLITICAL SCIENCE
BACHELOR OF ARTS - PSYCHOLOGY
BACHELOR OF ARTS - SOCIOLOGY
BACHELOR OF HOME ECONOMICS - HOME ECONOMICS
BACHELOR OF SCIENCE - GEOGRAPHY
BACHELOR OF SCIENCE - PHYSICAL GEOGRAPHY
BACHELOR OF SCIENCE - PSYCHOLOGY
BACHELOR OF SOCIAL WORK

11. Humanities

includes the following program(s):

BACHELOR OF ARTS - ASIAN AREA STUDIES
BACHELOR OF ARTS - CANADIAN STUDIES
BACHELOR OF ARTS - CHINESE
BACHELOR OF ARTS - CLASS ARCHEOL & ANCT
BACHELOR OF ARTS - CLASSICAL STUDIES
BACHELOR OF ARTS - CLASSICS
BACHELOR OF ARTS - ENGLISH
BACHELOR OF ARTS - FIRST NATION LANGUAG
BACHELOR OF ARTS - FRENCH
BACHELOR OF ARTS - GENERAL PROGRAMME
BACHELOR OF ARTS - GERMAN
BACHELOR OF ARTS - GREEK AND ROMAN STUDIES
BACHELOR OF ARTS - JAPANESE
BACHELOR OF ARTS - LATIN AMERICAN STUDIES
BACHELOR OF ARTS - LINGUISTICS
BACHELOR OF ARTS - MEDIEVAL STUDIES
BACHELOR OF ARTS - NO MAJOR
BACHELOR OF ARTS - PHILOSOPHY
BACHELOR OF ARTS - RELIGION / LIT
BACHELOR OF ARTS - RELIGIOUS STUDIES
BACHELOR OF ARTS - ROMANCE LANGUAGES
BACHELOR OF ARTS - SPANISH
BACHELOR OF ARTS - WOMEN'S STUDIES
BACHELOR OF FINE ARTS - CREATIVE WRITING

12. Life Sciences

includes the following program(s):

BACHELOR OF SCIENCE - BIOCHEMISTRY
BACHELOR OF SCIENCE - BIOLOGY
BACHELOR OF SCIENCE - DIETETICS
BACHELOR OF SCIENCE - LIFE SCIENCES
BACHELOR OF SCIENCE - MICROBIOLOGY
BACHELOR OF SCIENCE - NUTRITIONAL SCIENCES
BACHELOR OF SCIENCE - PHARMCLGY & THERAPTC
BACHELOR OF SCIENCE – PHYSIOLOGY

13. Physical Sciences

includes the following program(s):

BACHELOR OF ARTS – MATHEMATICS
BACHELOR OF SCIENCE - ASTRONOMY
BACHELOR OF SCIENCE - ATMOSPHERIC SCIENCE
BACHELOR OF SCIENCE - CHEMISTRY
BACHELOR OF SCIENCE - EARTH SCIENCES
BACHELOR OF SCIENCE - GEOLOGICAL SCIENCE
BACHELOR OF SCIENCE - GEOPHYICS
BACHELOR OF SCIENCE - HYDROGEOLOGY
BACHELOR OF SCIENCE - MATHEMATICAL SCIENCE
BACHELOR OF SCIENCE - MATHEMATICS
BACHELOR OF SCIENCE - OCEANOGRAPHY
BACHELOR OF SCIENCE - PHYSICS
BACHELOR OF SCIENCE – STATISTICS

Simon Fraser University

1. Fine and Performing Arts

includes the following program(s):

BACHELOR OF ARTS - ART AND CULTURE STUDIES
BACHELOR OF FINE ARTS - DANCE
BACHELOR OF FINE ARTS - FILM
BACHELOR OF FINE ARTS - MUSIC
BACHELOR OF FINE ARTS - THEATRE
BACHELOR OF FINE ARTS - VISUAL ARTS

2. Computing Science

includes the following program(s):

BACHELOR OF SCIENCE - COMPUTING SCIENCE

3. Engineering

includes the following program(s):

BACHELOR OF APPLIED SCIENCE - ENGINEERING SCIENCE

4. Education

includes the following program(s):

BACHELOR OF EDUCATION
PROFESSIONAL DEVELOPMENT PROGRAM

7. Health, Fitness and Kinesiology

includes the following program(s):

BACHELOR OF SCIENCE - KINESIOLOGY

8. Business

includes the following program(s):

BACHELOR OF BUSINESS ADMINISTRATION
BACHELOR OF SCIENCE - BUSINESS ADMINISTRATION

9. Natural Resources and Agriculture

includes the following program(s):

BACHELOR OF SCIENCE - ENVIRONMENTAL SCIENCE

10. Social Sciences

includes the following program(s):

BACHELOR OF ARTS - ANTHROPOLOGY
BACHELOR OF ARTS - ANTHROPOLOGY/SOCIOLOGY
BACHELOR OF ARTS - ARCHAEOLOGY
BACHELOR OF ARTS - COGNITIVE SCIENCE
BACHELOR OF ARTS - COMMUNICATION
BACHELOR OF ARTS - CRIMINOLOGY
BACHELOR OF ARTS - ECONOMICS
BACHELOR OF ARTS - GEOGRAPHY
BACHELOR OF ARTS - HISTORY
BACHELOR OF ARTS - POLITICAL SCIENCE
BACHELOR OF ARTS - PSYCHOLOGY
BACHELOR OF ARTS - SOCIOLOGY
BACHELOR OF SCIENCE - ECONOMICS
BACHELOR OF SCIENCE - GEOGRAPHY

11. Humanities

includes the following program(s):

BACHELOR OF ARTS - CANADIAN STUDIES
BACHELOR OF ARTS - ENGLISH
BACHELOR OF ARTS - FRENCH
BACHELOR OF ARTS - HUMANITIES
BACHELOR OF ARTS - LATIN AMERICAN STUDIES
BACHELOR OF ARTS - LINGUISTICS
BACHELOR OF ARTS - NO MAJOR
BACHELOR OF ARTS - PHILOSOPHY
BACHELOR OF ARTS - SPANISH
BACHELOR OF ARTS - WOMEN'S STUDIES
BACHELOR OF GENERAL STUDIES
BACHELOR OF GENERAL STUDIES - INTEGRATED STUDIES

12. Life Sciences

includes the following program(s):

BACHELOR OF SCIENCE - BIOCHEMISTRY
BACHELOR OF SCIENCE - BIOLOGICAL SCIENCES
BACHELOR OF SCIENCE - NO MAJOR

13. Physical Sciences

includes the following program(s):

BACHELOR OF ARTS - MATHEMATICS
BACHELOR OF SCIENCE - APPLIED MATHEMATICS
BACHELOR OF SCIENCE - APPLIED PHYSICS
BACHELOR OF SCIENCE - CHEMISTRY
BACHELOR OF SCIENCE - EARTH SCIENCES
BACHELOR OF SCIENCE - MANAGEMENT & SYSTEMS SCI
BACHELOR OF SCIENCE - MATHEMATICAL PHYSICS
BACHELOR OF SCIENCE - MATHEMATICS
BACHELOR OF SCIENCE - PHYSICS
BACHELOR OF SCIENCE – STATISTICS

University of Victoria

1. Fine and Performing Arts

includes the following program(s):

BACHELOR OF ARTS - HISTORY IN ART
BACHELOR OF FINE ARTS - THEATRE
BACHELOR OF FINE ARTS - VISUAL ARTS
BACHELOR OF FINE ARTS - WRITING
BACHELOR OF MUSIC - COMPOSITION + THEORY
BACHELOR OF MUSIC - COMPREHENSIVE
BACHELOR OF MUSIC - HIST AND LITRTRE
BACHELOR OF MUSIC - MUSIC EDUCATION
BACHELOR OF MUSIC - PERFORMANCE

2. Computing Science

includes the following program(s):

BACHELOR OF ARTS - COMPUTER SCIENCE
BACHELOR OF SCIENCE - COMPUTER SC + MATH
BACHELOR OF SCIENCE - COMPUTER SC + STAT
BACHELOR OF SCIENCE - COMPUTER SCIENCE

3. Engineering

includes the following program(s):

BACHELOR OF ENGINEERING - COMPUTER ENGINEERING
BACHELOR OF ENGINEERING - ELECTRICAL ENGR
BACHELOR OF ENGINEERING - MECHANICAL ENGR

4. Education

includes the following program(s):

BACHELOR OF EDUCATION

5. Law

includes the following program(s):

BACHELOR OF LAW

6. Health Professions

includes the following program(s):

BACHELOR OF SCIENCE - HEALTH INFO SC
BACHELOR OF SCIENCE IN NURSING

7. Health, Fitness and Kinesiology

includes the following program(s):

BACHELOR OF ARTS - KINESIOLOGY
BACHELOR OF ARTS - LEIS SERVICE ADMIN
BACHELOR OF SCIENCE - KINESIOLOGY

8. Business

includes the following program(s):

BACHELOR OF COMMERCE - NO MAJOR

9. Natural Resources and Agriculture

includes the following program(s):

BACHELOR OF ARTS - ENVIRNMENTAL STUDIES

10. Social Sciences

includes the following program(s):

BACHELOR OF ARTS - ANTHROPOLOGY
BACHELOR OF ARTS - CHILD AND YOUTH CARE
BACHELOR OF ARTS - ECONOMICS
BACHELOR OF ARTS - GEOGRAPHY
BACHELOR OF ARTS - HISTORY
BACHELOR OF ARTS - POLITICAL SCIENCE
BACHELOR OF ARTS - PSYCHOLOGY
BACHELOR OF ARTS - SOCIOLOGY
BACHELOR OF SCIENCE - ECONOMICS
BACHELOR OF SCIENCE - GEOGRAPHY
BACHELOR OF SCIENCE - PSYCHOLOGY
BACHELOR OF SOCIAL WORK

11. Humanities

includes the following program(s):

BACHELOR OF ARTS - APPLIED LINGUISTICS
BACHELOR OF ARTS - CLASSICAL STUDIES
BACHELOR OF ARTS - ENGLISH
BACHELOR OF ARTS - FRENCH
BACHELOR OF ARTS - GERMAN
BACHELOR OF ARTS - GREEK+LATIN LANG+LIT
BACHELOR OF ARTS - GREEK+ROMAN STUDIES
BACHELOR OF ARTS - HISPANIC STUDIES
BACHELOR OF ARTS - JAPANESE STUDIES
BACHELOR OF ARTS - LINGUISTICS
BACHELOR OF ARTS - MEDIEVAL STUDIES
BACHELOR OF ARTS - PACIFIC STUDIES
BACHELOR OF ARTS - PHILOSOPHY
BACHELOR OF ARTS - RUSSIAN
BACHELOR OF ARTS - WOMEN'S STUDIES
BACHELOR OF ARTS - WRITING
BACHELOR OF SCIENCE - LINGUISTICS

12. Life Sciences

includes the following program(s):

BACHELOR OF ARTS - BIOLOGY
BACHELOR OF SCIENCE - BIOC AND MICR BIOLOGY
BACHELOR OF SCIENCE - BIOCHEMISTRY
BACHELOR OF SCIENCE - BIOLOGY
BACHELOR OF SCIENCE - MICROBIOLOGY

13. Physical Sciences

includes the following program(s):

BACHELOR OF ARTS - MATHEMATICS
BACHELOR OF SCIENCE - CHEMISTRY
BACHELOR OF SCIENCE - EARTH SCIENCES
BACHELOR OF SCIENCE - MATHEMATICS
BACHELOR OF SCIENCE - PHYSICS
BACHELOR OF SCIENCE - PHYSICS + ASTRONOMY
BACHELOR OF SCIENCE – STATISTICS

University of Northern British Columbia

2. Computing Science

includes the following program(s):

BACHELOR OF SCIENCE - COMPUTER SCIENCE

6. Health Professions

includes the following program(s):

BACHELOR OF SCIENCE IN NURSING

7. Health, Fitness and Kinesiology

includes the following program(s):

BACHELOR OF SCIENCE - RECREATION

8. Business

includes the following program(s):

BACHELOR OF ARTS - RESOURCE-BASED TOURISM
BACHELOR OF COMMERCE - ACCOUNTING
BACHELOR OF COMMERCE - FINANCE

BACHELOR OF COMMERCE - GENERAL BUSINESS
BACHELOR OF COMMERCE - INTERNATIONAL BUSINESS
BACHELOR OF COMMERCE - MARKETING

9. Natural Resources and Agriculture

includes the following program(s):

BACHELOR OF ARTS - ENVIRONMENTAL STUDIES
BACHELOR OF SCIENCE - ENVIRONMENTAL PLANNING
BACHELOR OF SCIENCE - ENVIRONMENTAL SCIENCE
BACHELOR OF SCIENCE - NRM - FORESTRY
BACHELOR OF SCIENCE - NRM – WILDLIFE

10. Social Sciences

includes the following program(s):

BACHELOR OF ARTS - ANTHROPOLOGY
BACHELOR OF ARTS - ECONOMICS
BACHELOR OF ARTS - GEOGRAPHY
BACHELOR OF ARTS - HISTORY
BACHELOR OF ARTS - INTERNATIONAL STUDIES
BACHELOR OF ARTS - POLITICAL SCIENCE
BACHELOR OF SCIENCE - GEOGRAPHY
BACHELOR OF SCIENCE - PSYCHOLOGY
BACHELOR OF SOCIAL WORK

11. Humanities

includes the following program(s):

BACHELOR OF ARTS - ENGLISH
BACHELOR OF ARTS - FIRST NATIONS STUDIES
BACHELOR OF ARTS - NO MAJOR
BACHELOR OF ARTS - WOMEN'S STUDIES

12. Life Sciences

includes the following program(s):

BACHELOR OF SCIENCE - BIOLOGY
BACHELOR OF SCIENCE - GENERAL - UNDECLARED

13. Physical Sciences

includes the following program(s):

BACHELOR OF SCIENCE - CHEMISTRY
BACHELOR OF SCIENCE - MATHEMATICS
BACHELOR OF SCIENCE – PHYSICS

Royal Roads University

8. Business

includes the following program(s):

BACHELOR OF COMMERCE IN ENTREPRENEURIAL MANAGEMENT

9. Natural Resources and Agriculture

includes the following program(s):
BACHELOR OF SCIENCE IN ENVIRONMENTAL SCIENCE

Appendix D: Reasons Respondents Took Longer Than Anticipated to Complete Degree, by Institution

Reasons	UBC	SFU	UVic	UNBC*	RRU*
Refused	0.6%	0.1%	0.3%		
Don't know	0.4%	0.2%	0.2%		
Poor academic advising	5.3%	2.9%	3.7%	7.4%	
Course transfer problems	7.0%	4.0%	7.7%	24.1%	
Difficulty choosing courses or major degree area	5.4%	4.2%	3.8%	3.7%	
Change of major/area of specialization	18.4%	9.7%	14.1%	3.7%	50.0%
Completed requirements for more than one degree program	3.1%	2.9%	2.9%		50.0%
Experienced difficulty getting into required courses	4.9%	10.8%	6.4%	9.3%	
Courses wanted were not offered at convenient/desired times	4.0%	9.9%	6.4%	13.0%	
Took more courses than were required for degree program	5.8%	6.2%	4.3%		
Involvement in Co-op extended completion time	4.9%	13.8%	16.7%	5.6%	
Financial reasons/had to work to pay for education	10.7%	19.4%	14.1%	13.0%	
Studied part-time	7.8%	11.5%	9.3%	5.6%	
Studied through distance education	0.5%	0.9%	1.8%		
Personal or family reasons	15.6%	14.6%	17.3%	11.1%	
Chose to take time off/take a break	8.9%	7.0%	6.7%	5.6%	
Took time off to travel	3.1%	2.8%	3.8%		
Other (specify)	7.2%	5.0%	8.7%	20.4%	
Did not take full course load	3.6%	4.2%	3.0%		
Poor academic performance (failed courses)	4.3%	1.3%	2.7%		
Number of Respondents	797	872	624	54	2

* Note the small number of respondents

Appendix E: National Occupational Classification Matrix

	1 BUSINESS FINANCE AND ADMINISTRATION OCCUPATIONS	2 NATURAL AND APPLIED SCIENCES AND RELATED OCCUPATIONS	3 HEALTH OCCUPATIONS	4 OCCS IN SOCIAL SCIENCE, EDUCATION, GOVERNMENT SERVICE AND RELIGION
	-- Major Group 00 -- SENIOR MANAGEMENT OCCUPATIONS 001 Legislators and Senior Management			
MANAGEMENT OCCUPATIONS	011 Administrative Managers 012 Managers in Financial and Business Services 013 Managers in Communication Except Broadcasting)	021 Managers in Engineering Architecture, Science and Information Systems	031 Managers in Health Education Social and Community Services 041 Managers in Public Administration	
SKILL LEVEL A **University Degree**	**Major Group 11** PROFESSIONAL OCCUPATIONS IN BUSINESS AND FINANCE 111 Auditors, Accountants and Investment Professionals 112 Human Resources and Business Service Professionals	**Major Group 21** PROFESSIONAL OCCUPATIONS IN NATURAL AND APPLIED SCIENCES 211 Physical Science Professionals 212 Life Science Professionals 213 Civil, Mechanical, Electrical and Chemical Engineers 214 Other Engineers 215 Architects, Urban Planners and Land Surveyors	**Major Group 31** PROFESSIONAL OCCUPATIONS IN HEALTH 311 Physicians, Dentists and Veterinarians 312 Optometrists, Chiropractors and Other Health Diagnosing and Treating Professionals 313 Pharmacists, Dietitians and Nutritionists 314 Therapy and Assessment Professionals	**Major Group 41** PROFESSIONAL OCCUPATIONS IN SOCIAL SCIENCE, EDUCATION, GOVERNMENT SERVICES AND RELIGION 411 Judges, Lawyers and Quebec Notaries 412 University Professors and Assistants 413 College and Other Vocational Instructors
SKILL LEVEL B **College Certificate or Two or Four Years of Apprenticeship**	**Major Group 12** SKILLED ADMINISTRATORS AND BUSINESS OCCUPATIONS 121 Clerical Supervisors 122 Administrative and Regulatory Occupations 123 Finance and Insurance Administrative Occupations 124 Secretaries, Recorders and Transcriptionists	**Major Group 22** TECHNICAL OCCUPATIONS RELATED TO NATURAL AND APPLIED SCIENCES 221 Technical Occupations in Physical Sciences 222 Technical Occupations in Life Sciences 223 Technical Occupations in Civil, Mechanical and Industrial Engineering 224 Technical Occupations in Electronics and Electrical Engineering 225 Technical Occupations in Architecture, Drafting, Surveying and Mapping 226 Other Technical Inspectors and Regulatory Officers	**Major Group 32** TECHNICAL AND SKILLED OCCUPATIONS IN HEALTH 321 Medical Technologists and Technicians (except Dental Health) 322 Technical Occupations in Dental Health Care 323 Other Technical Occupations in Health Care (Except Dental)	**Major Group 42** PARAPROFESSIONAL OCCUPATIONS IN LAW, SOCIAL SERVICES, EDUCATION AND RELIGION 421 Paralegals, Social Services Workers and Occupations in Education and Religion, n.e.c.
SKILL LEVEL C **Up to Two Years On-the-Job Training or Some Secondary**	**Major Group 14** CLERICAL OCCUPATIONS 141 Clerical Occupations, General Office Skills 142 Office Equipment Operators 143 Finance and Insurance Clerks 144 Administrative Support Clerks 145 Library, Correspondence and Related Information Clerks 146 Mail and Message Distribution Occupations 147 Recording, Scheduling and Distributing Occupations		**Major Group 34** ASSISTING OCCUPATIONS IN SUPPORT OF HEALTH SERVICES 341 Assisting Occupations in Support of Health Services	
SKILL LEVEL D **Little or No Secondary or Short On-the-Job Training**				

5 OCCUPATIONS IN ART CULTURE, RECREATION AND SPORT	6 SALES AND SERVICE OCCUPATIONS	7 TRADES, TRANSPORT AND EQUIPMENT OPERATORS & REL. OCCUPATIONS	8 OCCUPATIONS UNIQUE TO PRIMARY INDUSTRY	9 OCCUPATIONS UNIQUE TO PROCESSING, MANUFACTURING AND UTILITIES
-- Major Group 00 -- SENIOR MANAGEMENT OCCUPATIONS 001 Legislators and Senior Management				
051 Managers in Art, Culture Recreation and Sport	061 Sales, Marketing and Advertising Managers 062 Managers in Retail Trade 063 Managers in Food Service and Accommodation 064 Managers in Protective Service 065 Managers in Other Services	071 Managers in Construction and Transportation 072 Facility Operation and Maintenance Managers	081 Managers in Primary Production (Except Agriculture)	091 Managers in Manufacturing and Utilities
Major Group 51 PROFESSIONAL OCCUPATIONS IN ART AND CULTURE 511 Librarians, Archivists, Conservators and Curators 512 Writing, Translating and Public Relations Professionals 513 Creative and Performing Artists				
Major Group 52 TECHNICAL AND SKILLED OCCUPATIONS IN ART, CULTURE, RECREATION AND SPORT 521 Technical Occupations in Libraries, Archives, Museums and Galleries 522 Photographers, Graphic Arts Technicians and Technical Occupations in Motion Pictures roadcasting and the Performing Arts 523 Announcers and Other Performers 524 Creative Designers and Craftpersons	**Major Group 62** SKILLED SALES AND SERVICE OCCUPATIONS 621 Sales and Service Supervisors 622 Technical Sales Specialists, Wholesale Trade 623 Insurance and Real Estate Occupations and Buyers 624 Chefs and Cooks 625 Butchers and Bakers 626 Police Officers and Firefighters 627 Technical Occupations in Personal Service	**Major Group 72/73** TRADES AND SKILLED TRANSPORT AND EQUIPMENT OPERATORS 721 Contractors and Supervisors, Trades and Related Workers 722 Supervisors, Railway and Motor Transportation Occupations 723 Machinists and Related Occupations 724 Electrical Trades and Telecommunication Occupations 725 Plumbers, Pipefitters and Gas Fitters 726 Metal Forming, Shaping and Erecting Occupations	**Major Group 82** SKILLED OCCUPATIONS IN RIMARY INDUSTRY 821 Supervisors, Logging and Forestry 822 Supervisors, Mining, Oil and Gas 823 Underground Miners, Oil and Gas Drillers and Related Workers 824 Logging Machine Operators 825 Contractors, Operators and Supervisors in Agriculture, Horticulture and Aquaculture 826 Fishing Vessel Masters and Skippers and Fishermen/women	**Major Group 92** PROCESSING, MANUFACTURING AND UTILITIES SUPERVISORS AND SKILLED OPERATORS 921 Supervisors, Processing Occupations 922 Supervisors, Assembling and Fabricating 923 Central Control and Process Operators in Manufacturing and Processing
	Major Group 64 INTERMEDIATE SALES AND SERVICE OCCUPATIONS 641 Sales Representatives, Wholesale Trade 642 Retail Salespersons and Sales Clerks 643 Occupations in Travel and Accommodation 644 Tour and Recreational Guides and Amusement Occupations 645 Occupations in Food and Beverage Service 646 Other Occupations in Protective Service 647 Childcare and Home Support Workers 648 Other Personal Services	**Major Group 74** INTERMEDIATE OCCUPATIONS IN TRANSPORT EQUIPMENT OPERATION, INSTALLATION AND MAINTENANCE 741 Motor Vehicle and Transit Drivers 742 Heavy Equipment Operators 743 Other Transport Equipment Operators and Relatsd Workers 744 Other Installers, Repairers and Servicers 745 Longshore Workers and Material Handlers	**Major Group 84** INTERMEDIATE OCCUPATIONS IN PRIMARY INDUSTRY 841 Mine Service Workers and Operators in Oil and Gas Drilling 842 Logging and Forestry Workers 843 Agriculture and Horticulture Workers 844 Other Fishing and Trapping Occupations	**Major Group 94** PROCESSING AND MANUFACTURING MACHINE OPERATORS AND ASSEMBLERS 941 Machine Operators and Related Workers in Metal and Mineral Products Processing 942 Machine Operators and Related Workers in Chemical, Plastic and Rubber Processing 943 Machine Operators and Related Workers in Pulp and Paper Production and Wood Proc. 944 Machine Operators and Related Workers in Textile Processing 945 Machine Operators and Related Workers in Fabric, Fur and Leather Products Manuf.
	Major Group 66 ELEMENTAL SALES AND SERVICE OCCUPATIONS 661 Cashiers 662 Other Sales and Related Occupations 663 Elemental Medical and Hospital Assistants 664 Food Counter Attendants and Kitchen Helpers 665 Security Guards and Related	**Major Group 76** TRADES HELPERS, CONSTRUCTION LABOURERS AND RELATED OCCUPATIONS 761 Trades Helpers and Labourers 762 Public Works and Other Labourers, n.e.c.	**Major Group 86** LABOURERS IN PRIMARY INDUSTRY 861 Primary Production Labourers	**Major Group 96** LABOURERS IN PROCESSING, MANUFACTURING AND UTILITIES 961 Labourers in Processing, Manufacturing and Utilities

National Occupational Classification: Occupational Descriptions, Human Resources Development Canada: Ottawa, 1993.

Appendix F: Provincial Comparisons: Survey Approach and Response Rates

The survey approaches used and the resulting response rates achieved differed by province:

- The 2000/01 Ontario University Graduate Survey of 1998 graduates was mailed out to 44,397 baccalaureate graduates. A total of 14,061 surveys were returned for an overall response rate of 32%.

- The 2000 BC University Baccalaureate Graduate Survey of 1998 graduates attempted to contact 10,481 graduates (excluding medical and dental graduates, international students and graduates living outside of North America) by telephone. A total of 6,357 graduates responded to the survey for an overall gross response rate of 61 percent.

- The 1997 Alberta Graduates Survey of 1994 graduates was also a telephone survey. A gross response rate of 51 percent was achieved.

- The 1997 Maritime Provinces Higher Education Commission outcomes survey of 1996 graduates from universities across Atlantic Canada randomly selected a sample of graduates (all degree levels and certificates) from the 18 universities in Atlantic Canada for telephone surveying. In total 4,204 graduates were interviewed—which constitutes about 28 percent of 1996 graduates—resulting in a gross response rate of 81 percent for the sample group surveyed (N=5,192).

Of all of the approaches used above, British Columbia successfully obtained interview data from a greater percentage of the total cohort of baccalaureate graduates selected for surveying than the surveys conducted by Ontario, Alberta, or the Maritimes. In 1998, a total of 11,918 students were conferred baccalaureate degrees in British Columbia. Two years later more than half (53%) of these graduates participated in the 2000 BC University Baccalaureate Graduate Survey. This is an impressive achievement for a survey project.